| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|---|--|
| | | | | | | GLGAQIM*GQEFET |
| 11562 | 25463 | A | 11662 | 142 | 437 | GQRVQIFFFFWKRFPFFAQGGTEGAQFR LIKPSPSGLKEIPPPNPPRKGE*RDGPP FRGDFVFLRKNGVPPCGQGGSKPPAPGE PPPFTPPRGENNRG |
| 11563 | 25464 | A | 11663 | 120 | 353 | QALQVMLKHVNFFFFLFFLFWKQSFVPL PRLECNGATSVHCNLCLPG*RNFPASAQ EFRIAGSYDHAICPPASGKGE |
| 11564 | 25465 | A | 11664 | 1 | 404 | NTWSDLIISYFHPRPSAFFLRQGLALSP RLEYRGTITGHYSLDLWGSSDSPASISR VAGTTYRCM*FQLLGRLRRENHLSPRGR GCSDP*LCPYTPAWVTERDPVSKKKLRG GGENSLLSSQTMY |
| 11565 | 25466 | A | 11665 | 493 | 3 | NIWIPDVLPGHLARQ*LGSPGKLSAGF* PLQFPQTLSSARAPPFCLPRLQVRNTVG FLPSPHTSRPSHCLPACPLPSRTQPWVP VKPGPTACRGFLQHPPTPGSPSP*SFQG SSWWDTDLRALECLLRILRGRNCSVFVT TQGQLSHEGMNKEFLLTCAKKKK |
| 11566 | 25467 | A | 11666 | 3 | 401 | CMERAVTVLLPGSATQSPPVYAPRALAR LWLTAAMMISGFIADYEA*SSRCSSACP AGDSLSYYHSPADSFSIMGSPVGAQDFC ADLGVSRANFIPTDTDMSTSPDLQWLVQ PALVYSVGPSETIAPHPLGVP |
| 11567 | 25468 | A | 11667 | 1 | 446 | LSCAKPPQRPLRHGIIKIFNVFEETRAN KHLLGVSKLKPRGFPALFLSVSSFGQKK HVPQWLQHSHSHILVISLDFFFFFFEK KFPFFPPGGRERDQTPFN*TPPRGG*RE SPPFPSRGGGTQGWAPHCPIIFRFFQKK GVFPLRAR |
| 11568 | 25469 | A | 11668 | 18 | 403 | DPLQRPQYRGGLRSVGCDLQSPTPRGPS GRWPNPAQARGPGEAQAWAWPGGGPREA FSGQGRPPPLGLHPHRRKGAGPPGPMGP *HEGQGSC*GASCRGGLACTAFPAASSP PIFGGLTPPNLNFPEE |
| 11569 | 25470 | A | 11669 | 157 | 1 | PRPQGFVFVFFFFEMQFGRLECSGAISA H*NLHFLGSSNSPASASHVYAPLY |
| 11570 | 25471 | A | 11670 | 396 | 7 | EKVGQARDKSACEGHSCADARSCLHLRV DQGGQHGSHGACPGRRLRGPDTHRQSCY QCRCNRSPDRLQPGRAGTP*CAEAAAEP DAAVHPGQPAPARLPPALPGRGLLPLPH PGGSQRVYCVRCIGSKLR |
| 11571 | 25472 | A | 11671 | 209 | .3 | DDLGTHRPGKSQVRVTPREAGENPSAVL PCYLHLVPFV*EDEVKPEDSIPDMPGNE YAREFLAHAPLY |
| 11572 | 25473 | A | 11672 | 270 | 101 | LSLNRWILGAYIIFFETESHSVAQAGVR *HNLGLLQSLPPGSRRPLAFKVAFLFIG |
| 11573 | 25474 | A | 11673 | 421 | 592 | SSCTPGVIIKIPCVRSNHMKLPGPGMVA HTCNPSTLGGQGGRITWSE*FKTRLGNM A |
| 11574 | 25475 | A | 11674 | 176 | 6 | LTFVYMPCFCALSSLIMTYGLAM*FHFH SMTLFIIGVLSVALAIYQ*WLDVSRVSV |
| 11575 | 25476 | A | 11675 | 1 | 418 | NTVCVCVCVCVCVCVERKAGHRLTDSFP IQAGPGAQARTLCLRESTGGALSSGLPA SRYQDPGRGALHPHCVWTPRGWNWRLNY PPARSPSREAVCYFRQTLKKWRSPRGQG GRILRVIRTASTFRDTS*TESACLGARP CLDGK*VCESVPCFSLHTHTHTHTHTH |

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|--|---|----------------|--|--|--|--|
| 11.000 | | <u> </u> | 44656 | | | HCI |
| 11576 | 25477 | A | 11676 | 305 | 698 | SFMGRSPRKIDQFCNSRNMVHGSVTFRD VAIDFSQEEWECLQPDQRTLYRDVMLEN YSHLISLGSSISKPDVITLLEQEKEPWV VVSKETSRWYPGK*E*SRQGEAIIVPDS PCAQRGVTPLRCGLENFLQ |
| 11577 | 25478 | A | 11677 | 107 | 397 | GGDGRETLRAPADDGCI*QERAETPLAI SCPRSSSTCRGRARRYDGCRTRDGHQLI QRGQQQESSRRTAQPGSSKLCRGPGGHR PSLGTVGVHGCSL |
| 11578 | 25479 | A | 11678 | 514 | 554 | RAKPTPP*GGGEGQNFGLLKPPVSGLPP LACPTPPKRWKPKPPPPAPPHFLFF**K RGLIF*PGEVFNLRNWKLPPSPPQRGGN KGRNQPPPRGTFMF |
| 11579 | 25480 | A | 11679 | 266 | 3 | GPPLFLGLKN*TFFSPTKV*IFFSQVFS SFPQGLKGGVREIFFFFFF*DRLECNGT ISAHCNLRLPGSSDSQASAGTTGVCHYT RMY |
| 11580 | 25481 | A | 11680 | 1 | 408 | NTCALRHRDHFSFWSDGKTKEGEERIVQ ENWLISWNNFSVPETLLTLSCPLGKEGM PGEDGTAGAGKVPGEDKIPG*DGTAGED GTEDENGTTGEDETAGVGKTPGAGGTTG EDDTESEDGTTGEDETAGKGGTAG |
| 11581 | 25482 | A | 11681 | 244 | 420 | KDSESTKAYIRDNISSTKKKKSWPGAGA HPCNPSTLEGKGG*IT*SQEFETSLANM VKL |
| 11582 | 25483 | A | 11682 | 294 | 443 | QMNTCTHIQPAYVH*EKYFRPSAMAHAL NPSTLGGRGGWIT*SQEFQTRP |
| 11583 | 25484 | A | 11683 | 346 | 1 | YNTNQFTLRGTQASVYTCLTALIVLKLL NQPYTLSAVLLNAGNQPFHAFPSPPSLH PDAFHSKIMSHIIILLLGFIPFLPASQS LTLSPSLERSGTISAQCNLCLPGSSNSP ISA |
| 11584 | 25485 | A | 11684 | 140 | 423 | SSHQASSPPTTASHSMKISVAAIPFFLL ITITLGTKTESSSRGPYHPSECCFTYTT YKIPAQRIMDYYETNSQCFKPGIVFITK RGHSRWTNPK |
| 11585 | 25486 | A | 11685 | 163 | 3 | IKIPCNRLLKFGPPSCCGFFFPLLPPFF FFETLSRSVAQAGLQWRDLGSLLAL |
| 11586 | 25487 | A | 11686 | 179 | 1 | PIVFLGMLFVAFAFRGPFESVTKPPNFF FFFEMESCSVAQAGVQWRDLGSLQARPP RST |
| 11587 | 25488 | A | 11687 | 192 | 1 | EQGFDGHLASWISLKDTAKWKNGDELCS YYQSCCTDYTAECKPQVTRGDVFTMPED EYTVYDDG |
| 11588 | 25489 | A | 11688 | 89 | 3 | SGGYCCCLCCRCSRYSCCCCRLREGPTK |
| 11589 | 25490 | A | 11689 | 168 | 2 | QDRLQPHESKRKLGPAPQLRRSESDTPS VVNFQSTESQLMSKGDEDTKDDSKETV |
| 11590 | 25491 | A | 11690 | 301 | 397 | HFVFSLVTGMNPLSPYLNVDPRYLVQVR LRFY |
| 11591 | 25492 | A | 11691 | 18 | 421 | TKALQITCYLHSTMSEESDGKLIEDSLI QLRCHFTWKLLIEAPEIPDLENRIWEEI QFLDTKYNVGIHNLLAYVKHLKGQNEEA LVSLKKAEDLIQKEHANQADIRSLETWG NFAWVYYHMGRLAEAQTYLDKV |
| 11592 | 25493 | A | 11692 | 188 | 3 | PLQGKGFGAKERGQKKGFLRGGVRASRP RPPFGPSLFFFFFFETDSHSVAQDGVQW CDLGS |

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|--|---|----------------|--|---|---|--|
| 11593 | 25494 | A | 11693 | 24 | 391 | APRADAMGHFTEEDMATITSLWGQGNVE DAGGETLGRLLDVYPWTQRFFDSFGNLS SASAIMGNPKVKAHGKKGLTSLGDAIQH LDDLKGTFSQLSELHCDKLHVDPENFKP LGNGLQTALQ |
| 11594 | 25495 | A | 11694 | 138 | 425 | NSGVKAAFQLNPGNPNLEGKPGPGFKTH PGQLGETHFLLKIHYLSGLVGKPWESQL LGNLNRENHWTPERGGPRDLRHCHGIQP WATNGNFVLKKK |
| 11595 | 25496 | A | 11695 | 158 | 838 | CGTVHSCDAGQRQRATAPSHPCDHGNQQ PILYRVLCCQLFWILCFVFSHSIMSTKC PSVSPVSGEMKKRKAITLEMKLKIIAQH EGGKPVMAIARELGLWQSTISTILRDKK QISDAAKSSASVKSTVITKKRAGPIDDM EKLLVMWMEDQIQKRIPLSLLMIQAKAR SLFNMLKDRASDPTYTQMFKASHGWFQR FKRRHNFHNVKITGEAARAGNEGAIAFK EQL |
| 11596 | 25497 | A | 11696 | 834 | 1431 | SSACQGGSQGWPPRQPWWMWGWSRRAPS VTHRTGERCSTSGSAPLPLLLSSLCSSL PRSWEHSTLRQPPHPPLLPPGCLPPGRE AQRLSGAGHGPGPRPAAASYIPDTQADR KQQQHHPGPDQHVGHREGLALEDAATHL GLVAALSCWLLGRAEAGYQVPHGHDHPK DQHPQADGGQRIVRAIGLGLGHHVSGRR ARP |
| 11597 | 25498 | A | 11697 | 143 | 1 | ISKERGASRFSGPWVFFFFFLESRSVAQ AGVQWCNLGSLQAPPPGFT |
| 11598 | 25499 | A | 11698 | 58 | 459 | KGKEKVKRKEAEQNFSPYAQDKQERIK GNENDEKTKQGKETIIDIELFKGLDETG ENMDSTLTRTPFEPLENNKQILVLGLDG AGKTSVLHSLASNRVQHSVAPTLGFHAV CINTEYSHMEFLEIGGSKPFRS |
| 11599 | 25500 | A | 11699 | 215 | 1 | GTKKALWAGGGGFFPYLPPMGPLGPICG GVGKGSPGLGCPIFFFFFFFETESCSVA RLDAQWPDLGSLQSP |
| 11600 | 25501 | A | 11700 | 300 | 420 | KPKILFGNVFAAPHMENLKCRGETVAKE ISEAMKVKAMC |
| 11601 | 25502 | A | 11701 | 351 | 466 | RIKNADLSQAQWFTPVIPALWEAKVGRS LEVRSSRPVW |
| 11602 | 25503 | A | 11702 | 172 | 400 | SNRLRNKIQGVFLNDSSISPFILRKQSI GQAWWLTPVIPALWKAEASGSPEMDSTT LLPSSSQVPSLVKMEKLNYS |
| 11603 | 25504 | A | 11703 | 284 | 408 | ASVFSSFFFVCLFVFEMESRSFAQAGVL WRDLGSLQAPPPG |
| 11604 | 25505 | A | 11704 | 20 | 447 | LPGADYGGGHLSLRLFHLLLASAAWVPD ESQVTLNSAICVLSTVLIMEFPDLGKHC SEKTCKQLDFLPVKCDACKQDFCKDHFP YAAHKCPFAFQKDVHVPVCPLCNTPIPV KKGQIPDVVVGDHIDRDCDSHPGKKKEK IFA |
| 11605 | 25506 | A | 11705 | 1 | 455 | HSCSLQFTPTAWDCTGSVSSEQGERPAA AMKICSLTLLSFLLLAAQVLLVEGKKKV KNGLHSKVRSEQKDTLGNTQIKQKSRPG NKGKFVTKDQANCRWAATEQEEGISLKD ECTQLDHEFSCVFAGNPTSCPKAQDERV YWKQVARKLRS |
| 11606 | 25507 | | 11706 | 1 | 428 | DAEADKMAAAAVRGGRSGGSGGCSGAGG |

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|--|---|----------------|--|---|---|--|
| 11607 | 25508 | A | 11707 | 1 | 422 | RSQARSSAAAAARASVPLRGSPGPSAIM PMFIVNTNVPRASVPDGFLSELTQQLAQ ATGKPPQYIAEHVVPDQLMAFGGSSEPS ALCSLHSIGKIGGAQNRSYSKLLSGLLA ERLRISPDRVYINYYDMNAANVGWNNST |
| 11608 | 25509 | A | 11709 | 88 | 423 | AADAMKQAEEAMGAFMRLAYQELQIDRL KEDKMLLNLEGNKREHAERLGMGLVSRS SVSHSVLSEMLVIEHETPVSAKSSRSQL DLFDDVGTFCSGPSKYTDNPFSLWESIG |
| 11609 | 25510 | A | 11710 | 393 | 130 | NPSATAQSFHLAARKLSTLDRPGSQAPQ KPMPSPKPGVVLPASTNAVPTPLAEATP SKAHPAISLLSTEEGIFKAVPSPASSCS FLHV |
| 11610 | 25511 | A | 11711 | 331 | 440 | KIFFLNFLISRAWWCAPLVLATWEAEVG ESLYPRRS |
| 11611 | 25512 | A | 11712 | 122 | 478 | SGLCPQQPPRANSCPPSSMASCAEPSEP SAPLPAGVPPLEDFEVLDGVEDAQGEEE EDEEEEEEDDLSELPPLEDMGQPPAEEA EQPGALAREFLAAMEPEPGPSPVPKEWL DILGNGL |
| 11612 | 25513 | A | 11713 | 102 | 2 | TNLGNPRRPPPFFFFETVSLLAQAGVQW CDLGS |
| 11613 | 25514 | A | 11714 | 126 | 2 | FFAPFLKIFFFFFFSEMESCSVLQAGVQ WHDLGSLQNEGSQ |
| 11614 | 25515 | A | 11715 | 178 | 449 | LSGGNLFGIIILLYCAIIGGKLLGLIKL PTLPPLPSLLGMLLAGILITNIPVINDN VQIMHRWSYSLRSIALAIILVRAGLVLE SKALEK |
| 11615 | 25516 | A | 11716 | 48 | 417 | GSGGNHSVCCDTMEGGGGSGDKTTGVLA GFFGAGEAGYSHADLAGVPLTGMNPLSP YLNVDPRYLVQDTDEFILPTGANKTWGR FELAFFTIGGCCMTGAAFGAMNGLRLGL KETQNMAWSKP |
| 11616 | 25517 | A | 11717 | 103 | 2 | PKSPTQWLMAVIPALWEAKAGGSRESRS SRPAL |
| 11617 | 25518 | A | 11718 | 1 | 413 | WPSGQVLVGCLSFSLYCWKRSLKRKNPG FEVLLKIFLKNHPRCHTNRMIQLTATPV SALADEPAHIRATGLIPFQMVSFQASLE DENGDMFYSQAHYRANEFAEADLNHAAS LGGDYLGDLALRLLCTLEPVFPQSY |
| 11618 | 25519 | A | 11720 | 116 | 462 | AGMLPAVGSVDEEEDPAEEDCPELVPTE TTQSEEEEKSGLGAKIPVTIITGYLGAG KTTLLNYILTEQHSKRVAVILNESGEGS ALEKSLAVSQGGELYEEWLELRNGCLCC SVK |
| 11619 | 25520 | A | 11721 | 167 | 407 | EIYSLTRFIEVKMSKKISGGTVVEMLGD EMTRIIRETLKEKLIFPYVESHLHSYDL GIENRDATNDQATKDALEAFNKPY |
| 11620 | 25521 | A | 11722 | 254 | 423 | NQLSSIMAMFKKIKSFEVVFNDPEKVYG SGEKVAGRVIVEVCEVTRVKAVRILACG |
| 11621 | 25522 | A | 11723 | 3 | 424 | VSCDTMEGGGGSGDKTTGGLAGFFGAGG AGYSHADLAGVPLTGMNPLCPYLNVDPR YLEQDTDEFILPTGANKTRGKFELALFT |

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|--|---|----------------|--|---|---|--|
| | | | | | | IGRCCMTGAAFGAMNGLRVGLKETQNMA WSKPRNVPILDMVTRQGALWANTLGALA |
| 11622 | 25523 | A | 11724 | 2 | 343 | AFGTMKWVTLVSVLFLFSSAYSRGVFRR DAHKSEVAHRFKDLGEENFKALVMIAFA QDLQQCPFEDDAFSTSEVPEFATTCQDD DHFEDRCRRVHTLVVVQLCTPATLLETD Y |
| 11623 | 25524 | A | 11725 | 1 | 359 | HAFGTMKWVTVISLVFLFNSAYSRGVFR RDAHKSEVAHRFKDLGEENFKALVLIAF AHYLHQCPFEDHVKLVNDVTEFAKTCDA DESAENCDKSLHTLFGDKLCTVATLQET YGEMADC |
| 11624 | 25525 | A | 11726 | 1 | 349 | GAMSDRKFSAPRHGSLGFLPRKRSIRHR GKAKSFPKDDPSKPGHLTGFLGYKAGMT HIVREVYRPGSKANTNEVAEAVTIVETP PMEVADIAGYMETPRGLRTFNTAFAEHM SDEC |
| 11625 | 25526 | A | 11727 | 81 | 349 | TKGSVVSCCVCLCVCLCTWSHLCRLVTW LPDMPDDVLWLQWVTSQVFTRVLMCLLP ASRSQMPVSSQQASPCTPEQDWPCWTPC SPEGC |
| 11626 | 25527 | A | 11728 | 264 | 388 | QADPKDIMKFPGPLENQRLSFLLEKAIT REAQMWKVNVRKM |
| 11627 | 25528 | A | 11729 | 2 | 471 | PGCSASWSKRGSGPDMLSSMAAAGSVKA ALQVAEVLEAIVSCCVGPEGRQVLCTKP TGEVLLSRNGGRLLEALHLEHPIARMIV DCVSSHLKKTGDGAKTFIIFLCHLLRGL HAITDREKDPLMCENIQTHGRHWKNCSR WKFISQALLTFQTQIL |
| 11628 | 25529 | A | 11730 | 160 | 377 | LQGFGRPSVYHAAIVIFLEFFAWGLLTT PMLTVSIAELGLCFVRERDKFLGTYHCV CLDTCLGVALDSDLKQ |
| 11629 | 25530 | A | 11731 | 45 | 438 | KLGQRKEATVTKESCKSCSRKVGSPDRF RSPQKRSKGRQDCFTLFCFWKVLDKNME LISPTVIIILGCLALFLLLQRKNLRRPP CIKGWIPWIGVGFEFGKAPLEFIEKARI KVCGRGRRGLQRRQCFLF |
| 11630 | 25531 | A | 11732 | 169 | 292 | DSILLVNLACSAVISAHCNLRLPGSSDS PASASRAAGGAHL |
| 11631 | 25532 | A | 11733 | 473 | 600 | KFWEKRTEGRGKSKSKNSETGEIVSISA LSTTEVAMHTSTSS |
| 11632 | 25533 | A | 11734 | 19 | 349 | APSPDAMGHFTEEDKATITSLWGTVNVE DAGGETLGRLLGDYPWTQRFFDSFGNLT SASAIMGNPKVKAHGTKVLTSLGDAIKH LDDLKGTFAQLSELHCDKLLVDPENF |
| 11633 | 25534 | A | 11735 | 234 | 359 | FYHLKSFTVSSVQSRWLTPVIPALWEAE AGGSPEVKSSRPAS |
| . 11634 | 25535 | A | 11736 | 15 | 372 | KLPLKALTGEEKTHINIDIIGHVHSVKS TTTGHLIYKSRGIDERTIEIFEKEAAEM GKGSFKYACILDKLKAERERGITIDISM RKFETSKYYVTIIDAPGHRDFIKDMTTG TSHADCA |
| 11635 | 25536 | A | 11737 | 1 | 357 | IWKAAMASPAGSWARPPRPMREPQTLAM PTNAAEDQKLKLERLMKSPDLAVTIPEK MSEWSPGPPPEFDRDVMGSRAGAASGEF HVYRLLRRREYQRQDYMDAMAEKRILDA EFQRRLE |
| 11636 | 25537 | A | 11738 | 24 | 335 | APNANAMGHYTEEDKATITSPWGKGNVE |

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|--|---|----------------|--|---|---|--|
| | | | | | | SDSAIMGNPTDKAHGQKVLTSLGDATKH LDDLKGTFAQLSELHCDKLH |
| 11637 | 25538 | A | 11739 | 141 | 335 | MQFLPCIPILKSLEKSVASHSQTVHSDI ISTVEFNHTGELLSTGDKGGRVVIFQRE QESKNQVHR |
| 11638 | 25539 | A | 11740 | 7 | 337 | APSPDAMGHFAEEDKATITSLWCKVNVE DAGGETLGRLLAVYPWTQRFFDSFGNLT SDSAIMGNRKVNAHGTKVLTSLGDAIKH LDDLKGTFAQLTELHCDKLHVDPENF |
| 11639 | 25540 | A | 11741 | 182 | 360 | SRHSISPPVNQIQLGASVTEELTVVTKT ARVSRAQWLMPVIPALWEAEAGESPEVR NSR |
| 11640 | 25541 | A | 11742 | 174 | 1 | HFSDHSLFVCVRQDLTLLPRLECSSLIT AHCSLHLLGSGDPPTAASWVSGNTGVHY HA |
| 11641 | 25542 | A | 11743 | 75 | 218 | KIILGRAQWLMTVIPALWEAKVGRSPVS ASQSAWDYRREPPCPSCTI |
| 11642 | 25543 | A | 11744 | 168 | 2 | LAPLWSLGPVLGGVGQGSPGPGFPFFFF FFFFETESCSVARLECSGPILAHCSLR |
| 11643 | 25544 | A | 11745 | 83 | 2 | REQRFLLPFVQLCPAPRGGVYRGRQAS |
| 11644 | 25545 | A | 11746 | 156 | 3 | FHSGSGRVENPSFFFSFFETGSCSVTQD GECTGATLAHCDLCFLGSSNSS |
| 11645 | 25546 | A | 11747 | 244 | 330 | KDRAQWVTPVIPALWAAKAGRSLEVRSS R |
| 11646 | 25547 | A | 11748 | 201 | 1 | TSQPLIRITLSTFFFFSRDGGLTMLPRL DPELPGSSNPPSCSASRVDGTTGMCHHT RLIFFSQTDKK |
| 11647 · | 25548 | A | 11749 | 262 | 3 | VYTSLTPPPISVNLLTQVSPRSVSYEQN ILCLLFVTYFTCTFFVCLFVCLFVCFFK MESCSVAQAGVRWRDLGLLQAPPPGFTY TT |
| 11648 | 25549 | A | 11750 | 225 | 3 | PIINFSVPQFLHLYNGIIIESTPPSCCI LKCQSLGQAQWFTPVITTLWEAEAGRSL EAWTLKTILANMAKPHL |
| 11649 | | A | 11751 | 185 | 2 | VSTPFNSFPSPPWDLVFLKGFFFFFFF FFETEFCSSPRLERNGAPLAHCNLRLPR SSNSP |
| 11650 | 25551 | A | 11752 | 261 | 336 | DRVSLWSPRLECNGAISSHCNLRLP |
| 11651 | 25552 | A | 11753 | 282 | 381 | TDLLYKKKCGLGAVAHAYNPSALGGQGG RITCS |
| 11652 | 25553 | A | 11754 | 202 | 45 | NPRKVKLQWALTLPLPFNLGGQLKSRFQ KKKKKKKKKKKEEKRKKKTLVVIC |
| 11653 | 25554 | A | 11755 | 293 | 357 . | LTPVIPALWEAEVGGSPEVRS |
| 11654 | 25555 | A | 11756 | 264 | 1 | TLPINVVCCDHSTGPSLISLPLLSLPYS LRHNNIEIRLINNPTTACKYSCLKKSHK SLTLDQKLEMIKLGEEGLLKAQIGQKLG LLHQ |
| 11655 | 25556 | A | 11757 | 126 | 1 | ILPGFLKELKIELPFNPAILPLGIYPKE KKLLYQKDTCTHMF |
| 11656 | 25557 | A | 11758 | 399 | 226 | IEKGTGRVWWLTPMIPALSEAKAGGSPE VRSPRPACIGLLKFWYYRCEPQHPARLS EI |
| 11657 | 25558 | A | 11759 | 235 | 380 | DTTVLKLGQLITLQWASKCSSERKSRTS LTLTQKLEMVKLSEEGMSKGD |
| 11658 | 25559 | A | 11760 | 249 | 357 | NRASGQTWCPTPIMPALWEVEAGGSLEP RSLRLTWA |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predicted end nucleotide location corresponding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|--|--|
| 11659 | 25560 | A | 11761 | 168 | 372 | KLHCLLCFYLSEFFVFCFLETRSLSVAQ SKCSGTVITHCSLKLLCSSDPATSDSRV AETTGTGYHAGL |
| 11660 | 25561 | A | 11762 | 303 | 377 | QFAGCRWLMPVIPALWEAKADGSPE |
| 11661 | 25562 | A | 11763 | 135 | 1 | ATTPGLFFIFYFFETESHSIAQAGVQCM ISVHCNLCLPGSSDSPV |
| 11662 | 25563 | A | 11764 | 219 | 2 | KLRSSQLSEPEVRPDSTLSMLMHARAHT HTHTHPHLFLPHPCSRPHTSTPTCMPIV THSPIYLKFHSHTYIL |
| 11663 | 25564 | A | 11765 | 102 | 1 | NRPINNPTMASMCSSERKSHKSLTLNQK LEMIKL |
| 11664 | 25565 | A | 11766 | 245 | 3 | PGEPEEDQLVKFRPSLLWVFMFLFFLRR SLALSPRLECSGVECSGVISAHCNLCLT GFKQFSCLSLLSGWDYRHVPPCPS |
| 11665 | 25566 | A | 11767 | 350 | 97 | GSVPASPQVTRPTLMTSLADKWFSLCLT SLRVNFGVALILSGSHSVSQDTLDLLTL FSTHLGLPKCWDYKRVPPCSAQFLVTFL |
| 11666 | 25567 | A | 11768 | 188 | 391 | LGSVAGDLLCFFGGVIFPCSFMFPMSLC YYLYIWYNSCVFLFFKTEPHFVTHSGVH WCDGLLOPPPPN |
| 11667 | 25568 | A | 11769 | 131 | 2 | YTLYIPNKSPIENIQLSWAQWLVPVIPA LCGAETGELLEPRSS |
| 11668 | 25569 | A | 11770 | 165 | 1 | VLIPLIHLCIYIYIYTYICVYIYTRIYT HICIHTHVYIHIYVYIHTYIYTYMYTY |
| 11669 | 25570 | A | 11771 | 72 | 1 | ILLFFFFFEAESCSVAQAGMQWCN |
| 11670 | 25571 | A | 11772 | 121 | 3 | TSFVLFCFETEFCSCCCPGLECNGAILA HCNLRLPGSSD |
| 11671 | 25572 | A | 11773 | 152 | 3 | HVCLNLTLPFLFEKNIFSLCVCVCVCVC VCVVLCKKKKCEKDFYFERTF |
| 11672 | 25573 | A | 11774 | 190 | 2 | GFSPRQRGAPRVPPPLAGPFPP1FFFFF FFEMWSHSVAPAGVQWCNHSSLAALTSP DSGDPP |
| 11673 | 25574 | A | 11775 | 287 | 1 | GAHRRKLFITPGESLRDKQIAGFEHRGG EKKKTLFYKKKKKRKKKKKKEKKGKEKKM LPKCNYTMKNHQVPYSIRPTRECADLRV FYFIKFQILKY |
| 11674 | 25575 | A | 11776 | 121 | 3 | KCASRDLSKFFFFFFLETESRSVAQAGV QWCDLGSLQAL |
| 11675 | 25576 | A | 11777 | 142 | 1 | EKTLHVRNTIHNSEGSLVIKIHGRLGVV AHACNPSTLGGRGGQITRS |
| 11676 | 25577 | A | 11778 | 179 | 3 | SHQPVPGTLDLPRGPQKLQSTSEAESEA SMSEASSEDLVPPLEAGAAPYREEEEAA KK |
| 11677 | 25578 | A | 11779 | 147 | 6 | KTPGLKKNSNFFFFFFFFFETRSHSIARA GVRGCDLSSLQPPPLGLK |
| 11678 | 25579 | A | 11780 | 184 | 3 | GFGFYIIPNYRLFFFSLLIGPFFFLIFF ETEPCSVARLECSGVISAHCNIRLLGSC DSPA |
| 11679 | 25580 | A | 11781 | 120 | 319 | VKSLAKFLVNYQLHRQTCSGQAGRGALR QRFGRPRQVDHLRPGVRDQPGQHGETPS LLEVRKLSSG |
| 11680 | 25581 | A | 11782 | 91 | 3 | YICLSLIYTHTHTHTHTHTHTHIYIYVC V |
| 11681 | 25582 | A | 11783 | 221 | 332 | SRLGMVDHPRSGVRDHPGQHGETPSLLK IQKLARRSG |
| 11682 | 25583 | A | 11784 | 243 | 379 | LKYSVPIKNCKPWPGTWDHTRNPSTLGG QGGWITLDQKFETSLAN |

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|--|---|----------------|--|--|---|--|
| 11683 | 25584 | A | 11785 | 327 | 5 | GRVDSQPIYPKNPPGSFPKIYPGSFKTL FPYLQSRHSFSIPRSKLARFHQAKPLFC SKPSQSLSPHSELKKKDLSQARWLTPVI RALWESKAGRSPEVRSSRPTWPT |
| 11684 | 25585 | A | 11786 | 245 | 359 | FKGMDRLRSGVRDQPGQHSKTPSVLKIQ KLAGHGGMRL |
| 11685 | 25586 | A | 11787 | 356 | 67 | RDIASITARLRYDRGVGITRLEVLSKSD EYTKGSVLDFSRETEPIGYIYIYIYIYI YIYIYLHSLPLNHMEISLGHPPLSNNKF VQNFDSPKLSYH |
| 11686 | 25587 | A | 11788 | 103 | 3 | KYIIPVCIFFFFETESCSVTQSGVQWCE LRRRG |
| 11687 | 25588 | A | 11789 | 136 | 1 | VHQFTIRILNYYYYYFFETESYSVTQAG VRWCNLGSLQPLPPGFK |
| 11688 | 25589 | A | 11790 | 291 | 163 | SLLLLPRLECNSTISAHRNPRLLGSSDS PASGRSLEPRSSKLQ |
| 11689 | 25590 | A | 11791 | 107 | 2 | IFMYVFFETESRSVAQAGVQWRYLGSVQ APPSGFS |
| 11690 | 25591 | A | 11792 | 329 | 3 | KNPRNIIGKSRGPYITNFPGDKGPKNSS PRGNDLSINKNWAQAFQPRGQKKLFFPK KKKKKETQSRSIPRLECNGPTIAQCNLK LLASSNPPTSASHSAAIISMSHSG |
| 11691 | 25592 | A | 11793 | 213 | 3 | ISPWLFLLLQATLFRSQYPGPFPPFSLS PYLFPFKQKLGSGFFFFFLFFFKTESRF LARLECSGIITAQ |
| 11692 | 25593 | A | 11794 | 1 | 400 | KRAAPQPAPEQRDLKKKKKKPPLAPSSL FRFWEKLLPSFQFRQPRGPFLGTRGVSF AFHRRRFWQYGNMGEKQTWGNPGSSSNP PPGTAGSLSGNRGPGWGGKIADRFWLYA RDSFGHSRGLKGSCCQAHLGK |
| 11693 | 25594 | A | 11795 | 3 | 769 | RKEQTRNARAEVLRQAKANFEKEERRKE LKRLRGEDTWMLPDVNERIEQFSQEHSV KKKKKKKKKKSKKKKKKKKKKKKKKKKKKKKKKKKK |
| 11694 | 25595 | A | 11796 | 110 | 13 | HTHTHTHKHTHTHTHTHKDRSGKIKC VPTV |
| 11695 | 25596 | A | 11797 | 184 | 2 | SEIFGKFHVFYILTVHFMPPTQVYVERD VLGQEQLLTPVIPALWEAKAGRSPEVRS SRPA |
| 11696 | 25597 | A | 11798 | 83 | 387 | GERRRRRRRLWAPLOKKKKKKKKKKK KKKKKKKKKKGGAPLKKPPGGPHFSGG ROKNIPPLKGGELKRAPAGDFKNPGRGK IARGGFFEKNLSWGGEK |
| 11697 | 25598 | A | 11799. | 153 | 2 | IPWEDTTVYSGYPQFLFSHSFFYFYFFE TGSCSLTQTGVQWCNHGSLQPR |
| 11698 | 25599 | A | 11800 | 93 | 3 | VWGRAWWLTSVISALWEAKVGESPEVRS S |
| 11699 | 25600 | A | 11801 | 115 | 1 | NPLFFFFFFFEMESCSVAQAGVQWCNLG SLQPLPPRFK |
| 11700 | 25601 | A | 11802 | 295 | 137 | RCFIFILFINKLYFVYLFIYFFEMESHT VAQAGVQWRDLGSLQAPPPNKLYF |
| 11701 | 25602 | А | 11803 | 287 | 1 | MGPHAPFKGTCGGFQDFRFKNLEISAGL |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|---|--|
| | | | | | | THSPLLAQNFRVGAVPSPRYSPRFGSKG GGGFFFFFFFFETESHSVAQQAGVQWCD LGSLQALPPGF |
| 11702 | 25603 | A | 11804 | 202 | 3 | WSVCCFKQGLGLSPRLECNGAPGFKQSF PLSLLSNWGYRGPPPRLNFFFFFEMES CSLAQAGVQR |
| 11703 | 25604 | A | 11805 | 3 · | 315 | FMLLILTLFLLRNDRLVQCDVRSSVVCL GFLLGWSVILYPLMAAFMPTMWIFLFIL FSMLFFYVFFLFLLFFLLFLYSFPLFCF FFCFYLFRFFFFFLIFFSSP |
| 11704 | 25605 | A | 11806 | 126 | 3 | KRGFFFFFFFFFFFETESRSFAQAGVQWC DLGSLQALPPGV |
| 11705 | 25606 | A | 11807 | 130 | 2 | QSIKMTCSSLYFFIKKNVAWWLTPVVPA LWEAGAGGSHEPKS |
| 11706 | 25607 | A | 11808 | 149 | 1 | GGKKAILFFFFSLSPRLECSGAIPTHCK LCLPGSRHSPASAFRVVGTAG |
| 11707 | 25608 | A | 11809 | 258 | 3 | KYYYQGNRQIKFVNAKSNKNLPSYSQKA SWFSSRNIRMMGQHQPMHLDNPTSFIKK LGQAWWLRPVTPALWEAEAGGSLESRSL |
| 11708 | 25609 | A | 11810 | 153 | 285 | CASPIRSHQKLNKNGWVQWLMPVIPVPW EAETGGSLQLRSSRLA |
| 11709 | 25610 | A | 11811 | 160 | 3 | NHLFLLLNRYKSIFIGRVQWLMPVSSAF WEAKAGRSFEPRSSRPAGQHGKTL |
| 11710 | 25611 | A | 11812 | 89 | 2 | AFFFFFETVSCSVAQGGVQLCHLHSLQL N |
| 11711 | 25612 | A | 11813 | 254 | 336 | LLGQPQWLTPVIPALWEAEAGRPSEVR |
| 11712 | 25613 | A | 11814 | 108 | 2 | CVGVLGFFVCLFFETESCSVAQAGMQWH DLLGSLH |
| 11713 | 25614 | A | 11815 | 166 | 289 | SHSGWNAVWRDGSLQPLTPGFKRFPCLR VPSSWDHKCAPPC |
| 11714 | 25615 | A | 11816 | 192 | 2 | DKDPGKVTRPFLLLCIFYLFICLFLRRT LAVSPRLEFSGRGCSEPRSHRCTPSWVT EQDSCRK |
| 11715 | 25616 | A | 11817 | 228 | 343 | LLQYSIQNEDAGWAWWLTPVIPTLWEAK AGRSLEVRSL |
| 11716 | 25617 | A | 11818 | 322 | 407 | VLRMLLHCLRECKLVQPLWKTVWQFLKD |
| 11717 | 25618 | A | 11819 | 119 | 1 | WEKIVRGKKCQKENTHTHTHTHTHTH THTYRESKRERLV |
| 11718 | 25619 | A | 11820 | 269 | 1 | FVQVFYILWTQSFCLTCCQWFLLGYHLS SVSNRFMRSGKSTFFFMTSEFFFFEMES RCVTQARVLECSGSISAHCKLHLPGPRH SPALV |
| 11719 | 25620 | A | 11821 | 217 | 389 | EHIETVYGKLGISEHWGKGGLFNKWLTI WKKDYSWQWWLMPVIPALWEAEVGGSRV H |
| 11720 | 25621 | A | 11822 | 188 | 1 | GSHMPCRVISSVHESMNEFPAVPTSYPA NPQPRERAWRNQREKEDKKERSQRSVGR VQAGLV |
| 11721 | 25622 | A | 11824 | 126 | 3 | KLQGQVQWLTPVIPAPWEAEAGRSPEVR SSRPASTWRNLV |
| 11722 | 25623 | A | 11825 | 224 | 3 | ALIIKKEVSAMELEGSNRIQAYGVQSIT GARDYHAAASRVPAIKGTHHHARVIFVF LVETGFHHVGQAGLDSC |
| 11723 | 25624 | A | 11826 | 3 | 364 | HELPEPLRVLWTAHRVAMAPGSRTSLLL AFALLCLPWLQEAGAVQTDPLSRLFDHA MLQAHRAHQLAIDTYHEFEETYIPKDQK YSFLHDSQTYFCFSDSIPTPCNMEETHQ |

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|--|---|----------------|--|--|---|--|
| | | | | | | KSNLELLR |
| 11724 | 25625 | . A | 11827 | 2 288 | 376 | ARELPEPITVLRTAHLKAMAPGSRTYLL LAFALLCLPWLQEAGAAQTDTLYMLFDH AMLQAHRAHQLAIDTYHEYDETYIPKDH KYSILHDYQTSFCFSNSITTPYNKEETQ QKSNLELLRISLL IHTKNPSVHHHHQRPKVDKTTKMGKKQS |
| | 23020 | | | | 3 | RKTGNSKKWSASPPPKEHSSSPATEQSW TENDFDELREEGFRRSNYSELQEEIQTK GKEVENFEKN |
| 11726 | 25627 | A | 11829 | 107 | 1 | KRSGVRLQRGLVRWLTPVIPTLWEAEVG GSFEVRC |
| 11727 | 25628 | A | 11830 | 220 | 354 | QGNKSFKNIIAPWLGTVAHACNPSTLGG QGGRITGHEIETILANM |
| 11728 | 25629 | A | 11831 | 273 | 352 | ENLKTGQIQWLTPVIPALWEAKAGRS |
| 11729 | 25630 | A | 11832 | 239 | 488 | SQTHCSGKTENSHGTNSDRNQVPTALHK RPSSPARFLTEAVPVPPVDYLQSVAAFA VSAVASQWERTGKPFNPLLGETYELIR |
| 11730 | 25631 | A | 11833 | 189 | 294 | DQTRWLTPVIPALWGAKASGSPEVRSSL HFPLLF |
| 11731 | 25632 | A | 11834 | 1 | 332 | GTSPEPLTVLWTGDLLAMAPGSRTSLLL AFALLCLPWLQEAGAVQTDPLSRLFDHA MLQDHRAHHLAIDTYHEFEETYIPKDQK YSFLHDSQTFFCFSDSIPTPSNMEET |
| 11732 | 25633 | A | 11835 | 330 | 175 | PRELAQLGSPNVRVSRVKPRGQPQMFFF FFWRQESCSVAQAGVQWHEPEQQE |
| 11733 | 25634 | A | 11836 | 96 | 1 | VFVETGSRSVAQDGGQWCDLSSLQPQPP RPRA |
| 11734 | 25635 | A | 11837 | 267 | 334 | SWVQWLTPVILALWEAEAGGSP |
| 11735 | 25636 | A | 11838 | 180 | 2 | SVLEKKEKNLYKNLFTYKLLKKVQGKTQ CEGRAQICSVCVCVCVSVCTCVHVCAYV SSC |
| 11736 | 25637 | A | 11839 | 183 | 2 | AAPLTSSAPQAPGWKPHLAPNSPFKNFT GRGQAQWLMPVIPALWEAKVGRSPEVRS LSSC |
| 11737 | 25638 | A | 11840 | 54 | 330 | DPNGQLPEPLKGLWTAHLVAMAPGSRTS LLLAFGLLCLPWLQEAGAVQTVPLSRLF DHAMLQAHRAHQLAIDTYHEFEEPYIPQ DQKNSFLD |
| 11738 | 25639 | A | 11841 | 117 | 344 | IQYVKQINETEMRNNESYLNHTSLTITI HTLCLMGSYLEHFQNQCKGRARRLMPVI PALWEAKAGRSPDVRSSKPA |
| 11739 | 25640 | A | 11842 | 750 | 968 | RAQGPRWILKIPFSSPFRLFPLIPLVFL YNSPPLFPPFPRTNATNNSPFPPPLPPP LPFSPPPPPSPSRPPPS |
| 11740 | 25641 | A | 11843 | 757 | 1000 | VVELVWYCCLFSPFFPLPSPPLFPPPPP SPPHSFPPPSPFRPPLPLAPTRPPPPFS LFQAPPLLPSFCSPPPPPPPSLSFL |
| 11741 | 25642 | A | 11844 | 278 | 361 | TLLFFFFFEMESHFVARAEVQWRDLGS |
| 11742 | 25643 | A | 11845 | 260 | 2 | GSCLLEGKLTNRKDIHTKNPSVHHHHQR PKVDKTTKMGKKQSRKTGNSKKQSTSPP PKERSSSPATEQSWMENDFDELREEGFT RA |
| 11743 | 25644 | A | 11846 | 194 | 2 | TKFAKEPSPPPCWQEVFKTSPLGFFFCP RSFPVNGFPRLKNLFFFFETESCSVAQA GVQWCARA |
| 11744 | 25645 | A | 11847 | 219 | 1 | SLGHTLKQSESSLSFSPGGTPLLEFKPS |

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|--|---|----------------|--|---|---|--|
| | | | | | | VYDPSVPPFQVSKGGCVGFFFFFQTESC |
| 11745 | 25646 | A | 11848 | 126 | 3 | SVAQAGVQWHDLGSPRA RFFFKGLFLHFFFFFFFFFFFETESHSVA QAGVQWCDLGLV |
| 11746 | 25647 | A | 11849 | 216 | 339 | KCFKVGKVYKLNRETFYLAQNFFDRNWA TQKMVVKTLLELI |
| 11747 | 25648 | A | 11850 | 190 | 334 | VSYHIEMSFFEVYNEKIHDLLVCKDENG QRKQPVRLKQFIICFEFLFL |
| 11748 | 25649 | A | 11851 | 198 | 352 | SRQGTWGIHGLECFFVCLFVLFFETESH FVPRLECSGAISAHCTLHLPGEL |
| 11749 | 25650 | A | 11852 | 371 | 1 | PPKKLGIQVFTPFAPRAFWPVLVFKKKG FPQGNLVLPGFFSKVSIQGVPPFCRKPF SGWGEAFQIGFFINRGKKFFFFPLGFFL KKVFLKFLAKFFFFFFFFETESHSVAQ AGVQWRSLGLV |
| 11750 | 25651 | A | 11853 | 176 | 3 | KKGFPLDWNSMVKNIIVKFGEDLQISKT LHTFFFLTESRSVAQAGMQWCDLGSLHS C |
| 11751 | 25652 | A | 11854 | 281 | 375 | QLTFKKYFLGWARWLTPVIPALWEAKAG RSP |
| 11752 | 25653 | A | 11855 | 146 | 356 | KCGALIAEIEVPLFSELRDFILAYSRMT ELCFKRCVPSLHHRALDAVDDDCLHSCS CTDYPINRSLMNAY |
| 11753 | 25654 | A | 11856 | 136 | 1 | LSILCEFFNWLIEMEYRSVSQAGVQWCD LSSLKPPPPRLQQCHSC |
| 11754 | 25655 | A | 11857 | 277 | 361 | IVLRGAMWLTPVIPTLWEAEEGGSPEVR |
| 11755 | 25656 | A | 11858 | 295 | 152 | VVFGFGFFETESHFVAQPGVQWCNLGSL CSLRLPGSSNSPASAFQVA |
| 11756 | 25657 | A | 11859 | 1 | 342 | GTRLPEPLTVLWTAHLGAMAPGSRTSLL LAFALLCLPWLQEAAAVQTAPVSRLFDH AMLQAHRAHQLAIDTYQESEETYIPKDH KYSLLHDSQTCFRFSDSIPTPYNMEDTQ HK |
| 11757 | 25658 | A | 11860 | 244 | 332 | TIEMMLDIKQIQVIFLFEFKMGRKIAET T |
| 11758 | 25659 | A | 11861 | 1 | 339 | GTRVVTICQVQLHAYAHFLYFFEMEARS VAQAGVRWCDLGSLQPPPPGSSSSSSSS S |
| 11759 | 25660 | A | 11862 | 311 | 394 | GMLGAVAHACNPSTLGGLGGWITCSQEF |
| 11760 | 25661 | A. | 11863 | 130 | 1 | VPPSVRTFFFFFFETESRSVSQAGVQWH YLGLLQAPPPGSTSC |
| 11761 | 25662 | A | 11864 | 3 | 320 | IMMYALFLLSVGLVMGFVGFSSKPSPIY GGLVLIVSGVVGCVIILNFGGGYMGLIV FLIYLGGMMVVFGYTTAMAIEEYPEAWG SGVEVLVSVLVGLAMEVGLVLW |
| 11762 | 25663 | A | 11866 | 165 | 309 | GLILLPMLECSDRISAHCSLYLLGSYDP SDSGSHVAGTTGTCHYAWLR |
| 11763 | 25664 | A | 11867 | 208 | 314 | GSRNKLSGQAQWLTPVIPALWEAEVGGS PEIRSSR |
| 11764 | 25665 | A | 11868 | 102 | 1 | KKFFFFFETESHSVAQARVQCNLGSLQA PPPRFT |
| 11765 | 25666 | A | 11869 | 126 | 3 | NNALQLHSSYCKKPFFFFLKTESRSLTK AGVQWCDLGLLQ |
| 11766 | 25667 | A | 11870 | 1 | 273 | KQLPVNFLNWVRLELTGLLCTLNLSKPC MIFIILVIVKYWFLLFCNIFKNHIFSQA QWPTPVIPALWEADMGGSHGYWITTIVD FMCATLT |

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|--|---|----------------|--|---|---|--|
| 11767 | 25668 | A | 11871 | 126 | 2 | FPKALLVVFFFFFFFFFETESRSVAQARV QWHNPGSLOCPLR |
| 11768 | 25669 | A | 11873 | 269 | 9 | QVSGKFWPDIFYKTGEKGLQCPNFPQGH PPRGLKKKSFSKKKKKKKKKSIAVGQAQ WLIPVIPALWEAKVGRSPEVKSSRPACP TW |
| 11769 | 25670 | A | 11874 | 114 | 1 | LEAKPGVFQSGVLLVIFFFFETESHSVS QAGVRWCDLG |
| 11770 | 25671 | A | 11875 | 146 | 1 | GNHLSSRVGVQDQPRQHGKTLSLQKIQK VAGPGGAHLQSQEVQVGGSL |
| 11771 | 25672 | A | 11876 | 2 | 159 | SLQFFFFFFRWSFVLVAQAGVQWHDLGS PQPPPPGFKHSPASASQVAGRGGR |
| 11772 | 25673 | A | 11877 | 124 | 240 | FRAFSSGQAWWLTPVIPALWEAETGGSL EARSSRPDWRT |
| 11773 | 25674 | A | 11878 | 135 | 5 | QVLFYFYFSDSFTLSPRLECSGVTLPHC NLCLPGSSDSCASAS |
| 11774 | 25675 | A | 11879 | 170 | 2 | GFFFPEKWGYKNSFLCFFFFFFFEPEFC SVAQAGVQWLHLGSLQPPPPVFKVDAAP |
| 11775 | 25676 | A | 11880 | 97 | 267 | GHGHATLRGLCVLSLFFHIPAPSVSGTS DAEECCLCVIYRLICGYISRNCLYFSDH R |
| 11776 | 25677 | A | 11881 | 1 . | 292 | LPEPLRVLWTAHLQAMAPRSRTTLLLAF ALLCLPWLQEAGADQTVPLSRLFDHAML HAHRAHQLAIDTYQEFEQTYIPEDQKYS FLHDSQTYFCFSD |
| 11777 | 25678 | A | 11882 | 93 | 2 | KYQMGWAWWLTPVILALWEAEAGRSPET SC |
| 11778 | 25679 | A | 11883 | 145 | 2 | PPLGLRLQVQAPTPGFFFFFFETESRSP RLKCKGAILAHCNVCLLLV |
| 11779 | 25680 | A | 11884 | 202 | 1 | TWWRWGVTVLVRLVMNCRPCDRHKSASQ LIGRVRQENGLNARVGGCSEPRSRHCTP VWVTSENPSSC |
| 11780 | 25681 | A | 11885 | 42 | 155 | GERSGLSPGVQDEPGQHSGTSSLQKILK LAGHGGTCP |
| 11781 | 25682 | A | 11886 | 215 | 1 | STMARHCPLSPMLFNSAMEVLVRAISQE KEIQGIQIGKEEVQLSLFTDDMIFNLEK RKDCSKNLLQLMNLV |
| 11782 | 25683 | A | 11887 | 214 | 1 | GYFFGLNEVLGKLEKPSLKVPQNPSPKR PFFLGFFFFETESRIVARLECSGAISAH FNLCLPGSSDSPVSC |
| 11783 | 25684 | A | 11888 | 215 | 3 | WGPGFPFFSFFFFFLRQGLAVIRLKCSG TITAHCSLNFLGSSDPPASVSLVATTTG HEPSITQFHSHGSC |
| 11784 | 25685 | A | 11889 | 118 | 1 | RFFIMGENPTKFFFFFETESLLPRLECS GVISAHCNLSC |
| 11785 | 25686 | A | 11890 | 267 | 83 | HCLRSGVQDQPGQHGKNPSIQKIQKLAT SFKKSLKIVIPPLPFKNDKTDSKSSCSS LSPHS |
| 11786 | 25687 | A | 11891 | 134 | 2 | DRLAVLPRLECSGMIFLLPLPSRFKRFS CLSLPSSWDYRGAPRA |
| 11787 | 25688 | A | 11892 | 116 | 1 | SKGVGHFLFFFFFFETESRSVAKTGVQW CDLGSLLCLV |
| 11788 | 25689 | A | 11893 | 397 | 475 | RFVCSTIKVLRDLSSDRSNPGRFLST |
| 11789 | 25690 | A | 11894 | 115 | 331 | KNVCLFVFVEMKNHLNPGDEGCSKPRSR HCTPSWAAQQDSISKYICIYRYLYLDIY LSKLVVRLRINQLPNS |
| 11790 | 25691 | A | 11895 | 134 | 251 | INPPVSRKKKKKKKKKKKKKKKKKKK |

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|--|---|----------------|--|---|---|--|
| | | | | | | KKKKKKGGGL |
| 11791 | 25692 | A | 11896 | 186 | 402 | PGKNLTLENVPRENKVGEKAPGQNEPPV LGGGEYQDPGGNVKGVGPPPAPGFGKDG PKRLADTFDLIEGDGD |
| 11792 | 25693 | A | 11897 | 100 | 2 | KGPPFFFFFFFFFFFFFFGQSGQVKLK SPKCK |
| 11793 | 25694 | A | 11898 | 92 | 3 | SVARIMPYALFLLSVGLVMGFVGFSSKP S |
| 11794 | 25695 | A | 11899 | 283 | 362 | MTYTMTIVHALWASVCLLLNHAHDPLD |
| 11795 | 25696 | A | 11900 | 248 | 1 | VMSAQPGLSVILRFMGKWSNWTGMQYTE SEVERYRDRGRARETERQRDRERERENP RNRKLFFYGRFKHSPQDFFMPQKVHF |
| 11796 | 25697 | A | 11901 | 253 | 2 | KLQENPFKLLNFIINLCSVSLNVPIILN INIKPSFIAPKPRCPSKFQRNYIYIYPS IYLSIYLSIYLSIYLPITISKVLKDVE |
| 11797 | 25698 | A | 11902 | 179 | 3 | LAVTKNEIMGFSTTWMEMGDINFFFFFF ETKSHPVMRLECSGVISAHCNLRILVSS SC |
| 11798 | 25699 | A | 11903 | 1 | 403 | GTSSQESFGGCCVSGLIAMGTKAQGERK LLCLFILAILLCSLALGSVTVHSSEPEV IIPENNPVKLICAFYDLSFFSSSFSYFF HLSFFIYYPYYLFVSCFTFYIVILLSFI YSHHLSSVSYYSYVLLIYTFIL |
| 11799 | 25700 | A | 11904 | 37 | 242 | KGPTRDQLQHPKARLPAPLRVLWTAHLA AMAAGSRTSLLLAFALLCLPWLIYDGAS HIVSLFMLFIIF |
| 11800 | 25701 | A | 11905 | 1 | 298 | GTSQHRGRKDSRTGSHSSSDHPGAKLLS TEEKQAAETMRPPSAPPRRGCIPWQGLL LSSS |
| 11801 | 25702 | A | 11906 | 225 | 30 | ACYLQKDGAFAILPDVLPDMFKGHSSLY PCQHAECDHIKNIYNCVCVCVCVCVCVC IVICKLNV |
| 11802 | 25703 | A | 11907 | 196 | 320 | HSSSSTTPSQDTHTHTHTHTHTHTHTHT HKIPQRELLPSVPD |
| 11803 | 25704 | A | 11908 | 130 | 3 | NGFVFSPFPFFFFFEMESHSVTQARVQW CDLGSLQSLPPGFK |
| 11804 | 25705 | A | 11909 | 381 | | ASICGQKLIFFQHWKKIILVQQVGLQKK NSTLKRAWEFLSFFQPAPPLGSPLKGIN ILNKGAKKLKGKTNFPGPIVFFFSVLPP FFGLKKFQKKVFHQGKSPFFFFFFETE SRSVAQAGVQWHDL |
| 11805 | 25706 | A | 11910 | 138 | 2 | SVPLKEFIISQARWLTPIIPALWEAEAG RSPEVRSSRPASTWRNP |
| 11806 | 25707 | A | 11911 | 231 | 54 | IRASFGIQIRICLTIFFFFETEPHSVTQ AGVQWRDLGSLQPPPRRQEQNSVSKQTK TN |
| 11807 | 25708 | A | 11912 | 3 | 461 | DAWGRVEGPPLRPPATSRRWAGPTLWRM EVTGDAGVPESGEIRTLKPCLLRRNYSR EQHGVAVSCLEDLRSKACDILAIDKSLT PVTLVLAEDGTIVDDDDYFLCLPSNTKF VAMAINEKWAYNNSNGGTGWISQESFDV FEAYSGATLLFFF |
| 11808 | 25709 | A | 11913 | 318 | 407 | LCGRLWWLMPVIPALWEAEAGGLLKLRS MR |
| 11809 | 25710 | A | 11914 | 340 | 5 | DRVAKFSEARLFRLFFPFFPLKIFCFPR GFKIFRGVCPLLFPPEFWGLFQKGPGMR LFFPPLGGFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF |

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|--|---|----------------|--|--|---|--|
| 11810 | 25711 | A | 11915 | 274 | 385 | IKPQRWGETRAEKLKSLKIRVPLLLQRN AAPHQQWNK |
| 11811 | 25712 | A | 11916 | 259 | 441 | DTKLPKVNIKLNFHALKKKKKKKKKKKK KKKKKKKSSSLRG |
| 11812 | 25713 | A | 11917 | 254 | 402 | LIVSVIDFLRWRLPLLPKLECSGMISAH CRLRLPGSYHSPASGCQLLGR |
| 11813 | 25714 | A | 11918 | 223 | 1 | NTNSPRKKFFYEEVSSVPVFFGVFFPSP LKGSPRAFLKLAWRPPLPLFFFLEMESR SAAQPEVQWCDLGSLQPP |
| 11814 | 25715 | A | 11919 | 97 | 3 | KPFFFPFFFFFFEIESRSVTQAGVQWRD LGS |
| 11815 | 25716 | A | 11920 | 154 | 384 | KEFFLMLFFFLPPPPPFFFFFFLGKGLF FFPPGGGGGGQFFSIGPPPRGKKDPPP SPPKMGGKRGTPPPPGYFFFF |
| 11816 | 25717 | A | 11921 | 225 | 369 | GTLNLLTYKIKSWSGAVAHYNPSTLGGW GKWITSGQEFETSLANVVKP |
| 11817 | 25718 | A | 11922 | 116 | 372 | MEYTWNKMAMSYNLHIYQTYKNSVIEHP TGVLPHSRVIMVNNIVLCISKQLKELLR RLMWEEHLSPGGGGCSEPRSRHCTPAWA T |
| 11818 | 25719 | A | 11923 | 271 | 409 | KKKKKKKKKKKKKKKKKKKGGGA |
| 11819 | 25720 | A | 11924 | 121 | 228 | KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK |
| 11820 | 25721 | A | 11925 | 55 | 423 | NKPKKKNFLKKKKKNFFFPFYPLKFFFF PKSLNFFRRVVPKISPPKKKFFFKNSPS VFFFPPLKKKNFFFLTPLKFGPPKNFFK RPPPLFFFFFFFFFFLSGNCIEKL |
| 11821 | 25722 | A | 11926 | 253 | 443 | YQHQRPKVDKSMKMGRNQRKKSENSKNQ NTSSPPKDHNSSPARQQNWMENEFDGLT EVGFRRW |
| 11822 | 25723 | A | 11928 | 175 | 413 | KKKKKKKKKKKKKKKKKKKKKKKKKKKGGG A |
| 11823 | 25724 | A | 11929 | 490 | 182 | RKQKIKGCKKPNPLAQGGVKKKGKGPP FNFFLKQKGQDFLKNWNLGQKKKIPIPP QVFSLRQKGAFPGRIFFFFFFFETESCS VAQAGVQTLSYKNKNKIK |
| 11824 | 25725 | A | 11930 | 110 | 2 | KKIPRKPPFFFFFFFYKAGSHLVAQAG VQWHDLGS |
| 11825 | 25726 | A | 11931 | 169 | 987 | YLEKIMSEHSRNSDQEELLDEEINEDEI LANLSAEELKELQSEMEVMAPDPSLPVG MIQKDQTDKPPTGNFNHKSLVDYMYWEK ASRRMLEEERVPVTFVKSEEKTQEEHEE IEKRNKNMAQYLKEKLNNEIVANKRESK GSSNIQETDEEDEEEEDDDDDDEGEDDG EESEETNREEEGKAKEQIRNCENNCQQV TDKAFKEQRDRPEAQEQSEKKISKLDPK KLALDTSFLKVSTRPSGNQTDLDGSLRR VRKNDPDMKELNLNNIENIRK |
| 11826 | 25727 | A | 11932 | 161 | 389 | SVQTHPNLRSCSVLKNAMHFYLLGYVIS GCTEPAKAIKPIDRKSVHQICSGPVVLS LSTAVKKIVGNSLDAGATNI |
| 11827 | 25728 | A | 11933 | 134 | 289 | ASTQNMGQMLRLMSSPTLLSLSLSHTHI HKHTRMHTHTHTHTHTYTPTKKV |
| 11828 | 25729 | A | 11934 | 128 | 1 | IKKGEFFFFFFFFFETESHSPRLQCSGTI LAHCNLHLLGSSNS |
| 11829 | 25730 | A | 11935 | 131 | 19 | MYIGWVQWLTPVIPALWEPKVGASLEAR SLRPARTSE |
| 11830 | 25731 | A | 11936 | 104 | 3 | LKGQLIRAQWLMPVIPSLWEAEMGRSPE |

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|--|---|----------------|--|--|---|--|
| 11831 | 25732 | A | 11937 | 146 | 2 | VGSSR GGRLGIIYHAWNPEGFFFFFEMESCSVG QAGVQWCNLSSLQPPHPGFK |
| 11832 | 25733 | A | 11938 | 149 | 1 | DKCFLCVCCLFIFIYLLIYFYFFETESC SIAQAGVQCCNLGSPQPLPLA |
| 11833 | 25734 | A | 11940 | 176 | 380 | QSVAQLPRLECNGMILAHCSLHLLGFKR FSCLSLPSSWDYSRLRNYQGGRRWSKTH QAWCQSLTILWN |
| 11834 | 25735 | A | 11941 | 133 | 415 | KKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK |
| 11835 | 25736 | A | 11942 | 222 | 420 | QGDKFLDNNNSTILYMEKKKKKKKKKKK KKKKKKKKKKKKKKKKKYSR |
| 11836 | 25737 | A | 11943 | 163 | 425 | KNPPKNSQLSPSTLKKKKKKKKKKKKKK KKKKKKKKKKKKKKKTG |
| 11837 | 25738 | A | 11944 | 143 | 3 | KMGKKQSRKTGNSKKQSASPPPKERSSS PAMEQSWTENDFDELREE |
| 11838 | 25739 | A | 11945 | 200 | 3 | QNSQVGYKGAPHKEKTMALQARVNLGPP RGPLKRPALFFFFFETESPSVTQDGVQW HDLGSMQPP |
| 11839 | 25740 | A | 11946 | 221 | 3 | RKIEGGPSTSRKSVRGVRCFQPLGLGFP GGLFFFFFFYETESCSVARLECSGVVSA HCILHLRSTNEGRRGR |
| 11840 | 25741 | A | 11947 | 68 | 177 | ISSSFKNKCLCEKKKKKKKKKKKKKKK KKKKKKR |
| 11841 | 25742 | A | 11948 | 210 | 329 | RHTHTHTHTHILSLSLSHTHTHAHTL MYFLAFFDLRS |
| 11842 | 25743 | A | 11949 | 183 | 20 | LGTVAHSCNFVFSLSRGFLHVGKNGLRL PTSDDPPTSASQSAGTTGMSPCTWPE |
| 11843 | 25744 | A | 11950 | 232 | 329 | VGIKMSISSDEVNFLVYRYLQESGFSHS AFTF |
| 11844 | 25745 | A | 11951 | 412 | 239 | LFYEKGSRFVSQAGLELLELKQSPCFGL PKCWDYRHEPPRQADLPFCVPSSAWASW L |
| 11845 | 25746 | A | 11952 | 310 | 393 | PHTDISGTPEIMHYVHVHRVTTQPRNKP |
| 11846 | 25747 | A | 11953 | 193 | 3 | LSSWPTLISGAFKAEENAVEGNDDSRTL RGFFVLFCFVLFFRQSLALSPRLECSGV ISAHCNL |
| 11847 | 25748 | A | 11954 | 185 | 416 | SVQTHPNLRSCSVLKNAMHFYLLGTEPA KAIKPIDRKSVHQICSGPVVLSLSTAVK KIVGNSLDAGATNIDLKLKDY |
| 11848 | 25749 | A | 11955 | 100 | 1 | AHLSKVFPIFFFFFEMESHSVTRLECSG TISAH |
| 11849 | 25750 | A | 11956 | 35 | 521 | KEKFFFHAGVYWGPPRNFLKRAPLFFFF FFFFFFFFFSFFFS |
| 11850 | 25751 | A | 11957 | 214 | 1 | KKKIFFFKEIFYPKLSRKKKNFFRGAGK ILNLSIFPEKKKIFSPFSFFFETESCTV AQAGVQWHVLGSLQP |
| 11851 | 25752 | A | 11958 | 114 | 1 | RYFSGQAQWLTPVIPALWEAEAGRSPEV SSSRPAWLTW |
| 11852 | 25753 | A | 11959 | 188 | 12 | SKCQCTFFSNFKKTEMESHYLAQAGLEL LGFSHLPTSVSQTVGITGVSHCAQPNAH LY |
| 11853 | 25754 | A | 11960 | 241 | 556 | SSIPFLPNKHLLLSFSTLSSLGREVSIQ DMCQGTYQKQPFPFPLPHVFHLSIRDGE LCVGRDVHLTCQTDLAQVFVCLFVLGVL LSLPRAGVQWCHLSSLQPPPP |
| 11854 | 25755 | A | 11962 | 362 | 462 | KIGQALTPIIPLLWEAEAGASPEARSSR |

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|--|---|----------------|--|--|---|--|
| | | | | | | SAWPT |
| 11855 11856 | 25756 25757 | A | 11963 11964 | 30 | 415 | CCCYCCCCCYCC GLGFKQKIFFFFFLGQGPNFDLLRAKKR PFLPPPFFPKNPKNRGVFLLGPSGVPKP RPRQGDVPPLKPRSLGVFLTSKKTPLGP WANPPPPPGDGP |
| 11857 | 25758 | A | 11965 | 149 | 2 | SKTWLKLAKYLKNTYPGWVRWLIPIVPA LWQAGAGELHEPRNLRPAWAT |
| 11858 | 25759 | A | 11966 | 179 | 3 | KKNIFFPPPVKFGPPQGFFKRPPPLFFF FFFFFFETESRSVAQAGVQWLSIGSLQ AP |
| 11859 | 25760 | A | 11967 | 245 | 382 | DVTDSKMHPDFRSSHVKMWLGVVAHACN PSTLGGSRGQEFKTSLAN |
| 11860 | 25761 | A | 11968 | 264 | 10 | LSTLECKGVSPGVFSPKGWRKGLGYIFS PFLEKPHIPPLGISMYFFFFFDGVSVAQ AGVQGRDLGSLHLPSPGSSYSCASASLS S |
| 11861 | 25762 | A | 11969 | 326 | 406 | RLLKGWALWLTPVIPTLWEATVGRSPE |
| 11862 | 25763 | A | 11970 | 120 | 1 | KGYGFPFPPKKPLGPPFFFFFATESCSV AQDGVQWRDLGS |
| 11863 | 25764 | A | 11971 | 84 | 370 | RNGAELKTPLAGQTQITINCRYSWVTLV LGDLESILCWHIFKKTNLFICGFFSSFL LGAGRMKSHCVVRLECRGMISAHRNVCL LGSNDSPCSAF |
| 11864 | 25765 | A | 11972 | 196 | 3 | SRGKMGEYPFVLFKNPSWAKAGGNKGNP FFFFFEAESCSVAQAAVQWCNLGSLQAP PPRFTPRA |
| 11865 | 25766 | A | 11973 | 559 | 644 | KIGCSAYGVAILLFLYFFNKLAFTLWKK |
| 11866 | 25767 | A | 11974 | 3 | 391 | HEAQLPEPLMVLGTGHLAEMAGGSRTYL LLAFGLLCLPWLQEAGAAQTVPLSRLFD HAMLQAHRAHQLAIDTYQELEETYIPKD QKHSFLHDSQTSFCLSDSIPTPSNMEET QQKSNLELLRISLLLIE |
| 11867 | 25768 | A | 11975 | 138 | 365 | LKFECHSTLCANHGKQTFTFVFYNKFLL KYTFYFSVLTYAINWYIKNLINVFKKKK KKKKKKKKKKKKNFKKKKN |
| 11868 | 25769 | A | 11976 | 275 | 433 | MSILDLSKARNFFLSFLETGSCSITQAG VQWLNHSSLQPQTPGLRDPPASASQ |
| 11869 | 25770 | A | 11977 | 108 | 3 | RCGLFFFETRASPCRPGWHNLGSLQPLP PRFKRF |
| 11870 | 25771 25772 | A | 11978 | 270 | 408 | FENNVWLGRAQWLTPVIPALWEAQAGRS PGPENQNHPDYKGNPWPY OALKFVIEMLLSLKKCLDVSVIFNRHKK |
| | | | | | | IELLQKKKKKKKKKKKKKKKKKPSQKKKD SSRGKDS |
| 11872 | 25773 | A | 11980 | 2 | 447 | GALALNKTTADVWRLNFLVSGLHWKRWL QQTSLSKWVKIKECSILKKKKKKKKKKK KKKKKKKKDKK |
| 11873 | 25774 | A | 11981 | 124 | 445 | KYGEMSQNPARGGPKFSKNQKYSEHLRI HCCPPFTFLISKKEIGDRKYSICKSGCF YQKKEEDWFCCPCQKTKTSRRAKSLKRP KQKPVAPPGGVKAPAKPRSLPRF |
| 11874 | 25775 | A | 11982 | 48 | 429 | KESNGSQDRLLPKIHSPDVSGGKSGGMS QNPARGGPKLSKNQKSSEHLRIHCCPPL PFLISKKEIGDRKYSFGKSGCFSQKKKE DWICCPCQKTKLKGKIRPPPKKNGPGGS LNGRTTWVSGLFVHN |

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|--|---|----------------|--|---|---|--|
| 11875 | 25776 | A | 11983 | 419 | 500 | SLLVKVEKQWPGAVAHACNPSTLGGPG |
| 11876 | 25777 | A | 11984 | 362 | 496 | LWSPIRILLLRWAWWHVPTVPAIWEAEV GRLLEPRSLCNMVRPIS |
| 11877 | 25778 | A | 11985 | 142 | 433 | RFVCSTIKVLRDLSSDRSNPGRFLSTSN SSLKKKKKKKKKKKKKKKKKKKKK KKKKKKKKGGGGVIKKFLGGPIFGGGG KEKFFFFGGGFIN |
| 11878 | 25779 | A | 11986 | 177 | 2 | CQRRWVTLSHHTHSITRPLGQLKKGWSP GAVAHTYNPSFLGGQGGWVTYVHRTRGR TR |
| 11879 | 25780 | A | 11987 | 178 | 443 | DKKKKKKKKKKKKKKKKKKKKKAGGGLF KKI |
| 11880 | 25781 | A | 11988 | 329 | 410 | LIFFFIFFERESHSVAQAIVQWHDLGS |
| 11881 | 25782 | A | 11989 | 146 | 1 | DRASALQPGRQGRNFVSKNKNNNVIYII NTLTTTIFLGTTYDALSPEL |
| 11882 | 25783 | A | 11990 | 240 | 420 | GVFAPLLGDVSQSGYTGFRDPLEEAVCL FLELECHAERTTALFRAVRQGCLSLQNL SVAF |
| 11883 | 25784 | A | 11991 | 239 | 410 | GTLFIYLLGDLFIYFRNKSLTLLPRLEC GGVIVAHCSLDLLGSGYPSISALPSSWD C |
| 11884 | 25785 | A | 11992 | 126 | 3 | YTGEYKSFCHKDTCTHMFTAALFTIAKT WNKPNGRVGGRV |
| 11885 | 25786 | A | 11993 | 300 | 22 | SQLLGRLRQENHFNWGGRGCSEPRSCHC IPAWATRANSIFCGFQASSVEVRRSARK KLFSDILKRHNTISWRVSGLLLVDSYFG RLATPVRAQ |
| 11886 | 25787 | A | 11994 | 303 | 2 | EGEEIFLPSPPFPPGQENPGSNCSPPLF PFGTFLDIRVAGSHKVQAKGVFKKRPPS LHLFLIKKRFFFFFFETESRSVPQAGVQ WRDLGSLQTPPPGFKR |
| 11887 | 25788 | A | 11995 | 171 | 457 | SFSDHLILGWIGFCNNLSKIALCSSPIK NKNDDLQKKKKKKKKKKKKKKKKAKASS SYQDSS |
| 11888 | 25789 | A | 11996 | 357 | 204 | EKTGFPHVGQAGVDLLTSRSTRLSLPKC WDYRHEPMRLAGHLYYFYPQMK |
| 11889 | 25790 | A | 11997 | 219 | I | PRVFWAPPPRYPPGALFWAPRPVGVSLG ARAPTKAGPKQKGARGTFFFFEMESHI, SPRLECNGTIWAHCNLC |
| 11890 | 25791 | A | 11998 | 254 | 1 | AHLRGNRQLPKHTFFQYMTTNLKCAFSV GRQSYSIPWRSFYTSLFFKYSCVFHTHT HTHTHTHTHTLYFQIMVLLLPSLRKKGS |
| 11891 | 25792 | A | 11999 | 167 | 2 | NFKSFFQGLSRGVLNPKVNLFFFLETES CSVSQAGMQWGDLDSLQPPPTRPPTRP |
| 11892 | 25793 | A | 12000 | 104 | 3 | RPWTFFFFSETKSRSVAQAGVQWRDLCS LQPPP |
| 11893 | 25794 | A | 12001 | 178 | 2 | KIFORGAKNSPWGLPFRGGENKKGAPPC QKGFGRFFFFFETESRFITQTGVQWCDL GP |
| 11894 | 25795 | A | 12002 | 163 | 282 | GIGGEWCLSKYVIKYVKKKKKKKKKKKK KKKKKKKKKKKKKKKKKKK |
| 11895 | 25796 | A | 12003 | 195 | 2 | KWGRIPLKKGGFCFTKKKSGQTLLIKSP PPAFFVFFIFFFLETESRSVAQATVQWC DLGSLQAP |
| 11896 | 25797 | A | 12004 | 152 | 1 | CFVDVSAEKLRPKDFMTKTPKAMATKAK IDKWALTKLKSFCTAKETIIRV |
| 11897 | 25798 | A | 12005 | 359 | 1 | EVVPIWPPPKRRVLSKVSKQFFISAPIR |

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|--|---|----------------|--|---|--|--|
| 11898 | 25799 | A | 12006 | 189 | 12 | GVLVVEIQRWSFISLVVVVVRARIMMYA LFLLSVGLVMGFVEFSSKHCPVYGALVL VSIGGRV DGRLPGSVCYYLIFLRQSFTLLAQAGAQ |
| 11050 | 23799 | | 12000 | 109 | 12 | WCHLGSLQSPPPGFKRGRRVSRIRAVRG DQ |
| 11899 | 25800 | A | 12007 | 131 | 3 | KIFFFFFFEMESHSVAQAGVQWRDLGS MQDPPPGFMPLLFY |
| 11900 | 25801 | A | 12008 | 150 | 2 | IILFLVPIEAVFFFFETVAEAGVQWHNL SSLQPPPPGFKQSPASASRVA |
| 11901 | 25802 | A | 12009 | 305 | 3 | KFFFSLKASIRGRWFGLFFTPPKKGFLP KIPHQVFKGGPLWEKLQLGKAGLNLGPY KGFFKGAARFFFFFFETESRSVAQAGVQ WRDLAHASVHASAHAS |
| 11902 | 25803 | A | 12010 | 263 | 517 | DKGFQLPPRWCPGQDPLFFYGGIVFHGG YGPPFFFFFKAESRLVAQAGVQWQDLG SLQPPPCRTRGSP |
| 11903 | 25804 | A | 12011 | 107 | 374 | WMGTWGSLPVLLTTRSTCPPRSPRLHRR TGATIWIFFRLFETGTVLPMLECSTVIM AHCRLQLPGSSSSPTIASQVAGTKAHLS DCFVY |
| 11904 | 25805 | A | 12012 | 144 | 261 | FPKKINNFYFTFLQDPTGIFSLDKTIGL GTYGRIYLVS |
| 11905 | 25806 | A | 12013 | 371 | 3 | IFHLRKIFTFLPGIFWPIRLLSEKKKPK RFWVKIKKFKNGYPLKNPINPKYKGPRF FFKGEKNPNGKVPVLKKIKIPSFSKALG FLQKKASKPFFFFFFDTESCTVDQSGVQ WCDLGSLQAP |
| 11906 | 25807 | A | 12014 | 101 | 3 | RGAFFFFFFETRSRSVIQAGVQWCDLGS LQAP |
| 11907 | 25808 | A | 12015 | 205 | 2 | VFNPSGINVMYVDAIILNKRLATRIQQH IKQRILHDQVGFIHGMQGWFSIRKSINV IQHINRPKDKN |
| 11908 | 25809 | A | 12016 | 168 | 1 | GCVCQFQKKLGNGGLNGFFFPLFFFFFF EMKSRSVVQAGVHWRYLSSLQTPPPEFK |
| 11909 | 25810 | A | 12017 | 311 | 2 | RGLRFGQWKTQMENPNTPFSALRPGQLS SIRSGLLHTYPGLGDRSEPLSCSILSSS KYVVWQAVTSALSSNKPGASQGHWKDDF FLFFETESCSVTQAGVQWH |
| 11910 | 25811 | A | 12018 | 383 | 247 | LVEMGFRHVGQDGLDLLTSQSAHLGLPK WWDYRREPPRLATIEVL |
| 11911 | 25812 | A | 12019 | 2 | 379 | RVLWTAHLAAMAAGSRTSLLLAFALLCL PWLQEAGAVQTVPLSRLFKEAMLQAHRA HQLAIDTYQEFISSWGMEAYITKEQKYS FLHDSQTSFCFSDSIPTSSNMEETQQKS NLELLHISLLLIES |
| 11912 | 25813 | A | 12020 | 3 | 389 | PEPLRVLWTAHRGAKGAGSRTSLLLGFA LLCLPWLQEAGAVQTVPLSKLFDHAMLQ AHRAHQLAIDTYQEFEETYIPEDQKYSF LHDSQTSFCFSDSIPTPSNMEETQQKTN LELLRIFLVLIELWLDP |
| 11913 | 25814 | A | 12021 | 247 | 386 | PMLGHVSQSGGNGVRDPLEEAVCPLAKL KHCSGRSTALFRAGRQKR |
| 11914 | 25815 | A | 12022 | 17 | 371 | PLRDLWTAHLEAMAPSFRTDLLLAYALL CLPWLQEARAVQTVSLYRLSDHAMLQAH RAHQLAIDTYHEIEETYILKDQKYSFLH DSQTSFCFSDSIPTPSNKEETQQKFYLE |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|---|--|
| 11915 | 25816 | A | 12023 | 3 | 359 | LLPISL LRALWTADLGAKAPGSRTFLLLASALLC |
| | | | , | | | IPWLEEAGAGQTVPLSKLFDHAILQAHR AHQLAIDTYQELEETYIPKDQKHSFLLD SQTSFCFLDSIPTPSNMEETRQKSNLEL FRTSLLL |
| 11916 | 25817 | A | 12024 | 2 | 363 | PEPLKGLWTDHLGALAPSSRTSLLLAYA LLCLPWLQEAGAGQTVPVYTLFDHAMLQ AHRAHQLAIDTYHELDETYMPEDHKYSF LHDSQTCFCFSDSITTPYNMEETQHTSN VELLRISL |
| 11917 | 25818 | A | 12025 | 314 | 393 | GQAWWLTPVIPAFWEAKGGRSLEARS |
| 11918 | 25819 | A | 12026 | 80 | 392 | PLIACSFFLFLFFFFGKKILFLPPRWKG GGGIWVNGNPGFRGQAFFLASSSKKPGM GGPPLTPGKRFVFLKKKGFSPGGPGGSK FSAPGTPPTGPPKGWEIPAK |
| 11919 | 25820 | A | 12027 | 165 | 2 | WQKLLFHFGTESCSVARVGVQWRHFSSP KPPPPEFKQLSAPASRVADRRPPDAW |
| 11920 | 25821 | A | 12028 | 1 | 338 | VFVALKFLMCLLSVCIFSLENIYSNSLP QKNCLPLIFFFLFFEMEACSVTQAGVQW GDLGSLQPPVSHLNLGGGGCCEPRECHC TPCSRPGDRDFVFNKNTMIQDNHLMELT |
| 11921 | 25822 | A | 12029 | 2 | 315 | HEEREREREREREREREREVGRTVG GVGETYKAELPRVGGAAQKRAHFSARGR LFMEICGDMCGEKPGKPPHSLTEECLSR CGERFFDTSLAITRGCAQSV |
| 11922 | 25823 | A | 12030 | 216 | 3 | ERIIPRGVRQRNRLFSGRDTASPPLFYP PPRQIHKRGVEDREHERRGERERERE RERERERERARAAR |
| 11923 | 25824 | A | 12031 | 114 | 329 | QTERNSININKKDIHTKTPSVGHQHQRP KVDKTTKMGRNQSRKAENSKNWKASSPP KEHNSSPAREQNWMES |
| 11924 | 25825 | Α . | 12032 | 177 | 1 | IKKKTFFWQNIPLFSKKKTCRQKFFFFF FFETGSLLPRLVCSGAVLAHCSLCLPGS AFL |
| 11925 | 25826 | A | 12033 | 127 | 1 | PSFFFFFFFNETESRSVAQAGVQWRDLD SLQAPPPGFITPSC |
| 11926 | 25827 | A | 12034 | 47 | 314 | GAPVASVSISCPSCSATDGVVRNGKSTA GHQRYLCSHCRKTWQLQFTYTASQPGTH QKIIDMAMNGVGCRATARIMGVGLNTIL RHLKN |
| 11927 | 25828 | A | 12035 | 15 | 408 | GAIPGAMGHFTEEDKATITSLWGMVNAE DAGGETLERLLVDYPWTQRFFDSFGNLS SASAIMGNPKVMAHGKKVLTSLGDATKH LDDLKGTFAQLSELHCDKLHVDPENFKL LGNVLVTGMAIHLGKEFTP |
| 11928 | 25829 | A | 12036 | 122 | 2 | KLVDVLPPPGGARVFFFFFFPLETEHCS VAKAGVQWHDFG |
| 11929 | 25830 | A | 12037 | 154 | 1 | GKPPPKLGFWGGPRQRVRGRGPPFFFFF ETESPSVAKAGVQWCDLGSLHPL |
| 11930 | 25831 | A | 12038 | 58 | 254 | DPRVRQQRTTAHCSLNLPGLQRPPSLSL PSGWDYRHAPLCATQKILAYRVAQRERS AHGSYYQAS |
| 11931 | 25832 | A | 12039 | 270 | 124 | DGVLLLLPRLECNCAISAHGNLRLPGSS NSPASNKTKQNNNKKTLSNKF |
| 11932 | 25833 | A | 12040 | 63 | 355 | LGRGTAHRRLWRPLSRPASRVSYLSAAT NKRSFAPPSRAFPWDNKWERGGFYFFET GSHRRRPGRMECSGAITAHCSLDFPGSE |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide 'sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|--|--|
| 11933 | 25834 | A | 12041 | 184 | 3 | MGFTMFPSLVSNS GVSRLLGGVSOLGYMGVRDPLEEAVCLF |
| 11933 | 23834 | A | | 104 | | SKLKHHPGRTTALFRAVRQGCLSLQKFL LLFA |
| 11934 | 25835 | A | 12042 | 118 | 3 | DRVLLCYLGWECSGTISAYCNLHLPGSK RFSCLSLPSS |
| 11935 | 25836 | A | 12043 | 40 | 436 | LSEGKLTNRKDNHTKTPSVHHHHQKPKV DKTTRMGRIQSTKAENSKNESTSSPPKE HSTSPATEQSRMENDFDELREDFRRSVI TNFSELKEDVRTLCKEAKNLEKRLDEWR TRINSMEKTINDLMELKTMA |
| 11936 | 25837 | A | '12044 | 101 | 2 | HLGQVRWLTPVIPILWEAEVGGSPEHRS SRPAW |
| 11937 | 25838 | A | 12045 | 123 | 3 | LTVIKELPLGQARWLTPVIPALWEVKVG GSPEVRSSRPA |
| 11938 | 25839 | A | 12046 | 3 | 432 | PIFGGGGERIFPFFFFFSQGGGVFFPKT KNKGFFPFLGFFKKIFLRNFFFLFFPFF FLNPFFYFGAPPFFFFFPGGGFFFPLFS RFFKFFFQNFPQGFFFGGGFFFFLGFF FFFFFL |
| 11939 | 25840 | A | 12047 | 325 | 164 | KNKRKNRGQARWLTPVIPALWEAEAGGS PEVRTTGVSHGTRPHLLLNTVSEYI |
| 11940 | 25841 | A | 12048 | 187 | 381 | LMDKRVSLWGDENILKVESNSGCTTLYL LVCFEMESRSITQAGVQWRDLSSLQPPP SRFKRFSCL |
| 11941 | 25842 | A | 12049 | 84 | 464 | SYRVPSHPDTLVLSRISAQEAGEKSPFC FPERVWPCPRPLSDLGRRLKLECGPDLL DSTFLSFFFGEGLKTGSHSGALECSGVI RDHCGLCLSGSGDPPISACLRVAGTTGV SHHCIFCRODLPGS |
| 11942 | 25843 | A | 12050 | 232 | 20 | LLQCSSRAKIHTSLTGNQKLEMIKLSEE GMSKAEISQKLGLLHHLGLVANAKQRFL KVIRSATPEFRHAE |
| 11943 | 25844 | A | 12051 | 401 | 518 | FFETESCSVTQAGVQWRNLSPLRA |
| 11944 | 25845 | A | 12052 | 191 | 1 | LFPLKKEKIFFLGPGTNGAPPMFFLKAP PLFFFFFFFFFFFFFFFFFVNLFLL LSFLHILEP |
| 11945 | 25846 | A | 12053 | 12 | 369 | PLPIYSACIEVGSNPQGPGIDAKSVSHN NCYLKEKKKKKSNGSQNNLLPKIHTPNG SGKKTGEKIQNPPRGGPKLSKNQKYSKN LKKHCCPRLTFLISKREKGNRKYTFGKS GCFYQKK |
| 11946 | 25847 | A | 12054 | 89 | 513 | NFTVRGSIPLLNNIPMANLLLLIVPILI AMAFLMLTERKILGYIQLRKGPNVVGPY GLLQPFADAIPLFPKEPLTPAPSAFALC FAAPALALPFALFLCPPRPLGRP |
| 11947 | 25848 | A | 12055 | 158 | 3 | SQLTWPIMAQTDSMCLWIVYFDDNIGWA WWLMSVIPTLWEAKVGGSLEHSN |
| 11948 | 25849 | A | 12056 | 113 | 1 | KSHGGHGVEVLVSVLVGLAMEVGLVLWV KEYDGAALA |
| 11949 | 25850 | A | 12057 | 44 | 263 | ARIARSAHEGKMPRKYTGARKNAENRPQ RELQLKASRSTIDLAEHACNALWYQLFL ISVGSWKNYILFYLTYT |
| 11950 | 25851 | A | 12058 | 142 | 1 | KKIFFRYKKEGFSFPKFFRISLFFFFFF ETESRSVAQAGVQWRDLGS |
| 11951 | 25852 | A | 12059 | 12 | 347 | QTERNSININKKDIHTETPSEGHQHQRP IVDKSTKMRKNQCKKAENSKNQSASSPA KDHNCLPAKEQNWTENEFHKLTEVGFRI |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon,/=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|---|---|
| 11952 | 25853 | A | 12060 | 245 | 3 | ITNSVELKEHILTQCKEAKNLEQRLEEL MPEGSFFLEIPEITRVFVKKPGKFLGGV |
| 11932 | 23833 | F | | | | GPSLLFFFPFFFFFFFMRQSLAVSPRLEC NSAISAHCNLCLLGSSDSRSSGSR |
| 11953 | 25854 | A | 12061 | 94 | 3 | KGGIFFFFFFFFFLRQSPSVAQAGVQWCD LG |
| 11954 | 25855 | A | 12062 | 108 | 5 | NNLSSGVRDQPGQHGETTSLLKIQKLAR HGGRHL |
| 11955 | 25856 | A | 12063 | 298 | 1 | KKKKINTHAQKRGPPFFFKPPPEKGKAP PPQRVTKKGGEKDSFIPKRREKKNPPPL SFFFFLVRVHVRERERARARERERERER ERERERERERERAR |
| 11956 | 25857 | A | 12064 | 122 | 1 | VCEGVCVGGWVRDRERERERERERER ERERERERERAR |
| 11957 | 25858 | A | 12065 | 126 | 1 | ATCTKFRNDNRALLRVRVFERERERERE RERERERERERESR |
| 11958 | 25859 | A | 12066 | 48 | 351 | FFFFFFFKKGPKIVPPGGGGGGDPIFL EPPPPPLKKFWGPPLRGRGNKGGGPPGW VNFGIFLKKKGLPWGPGGVKTPAFKGSP GPTPPKGGNNRKNPPPW |
| 11959 | 25860 | A | 12067 | 1 | 365 | GTRLTVLWTAHLVAMAPGSRTSLLLDFA LLCLPWLQEAGAVQTVPLSRLFDHAMLQ AHRAHQLGIDTYQEDEETYIPKDHEDSF LHDCQTSFCFSDSIPTPSNMEETRQKYH LELLRISLLF |
| 11960 | 25861 | A | 12068 | 174 | 1 | PAWVMQHNPVSLFFCFFETESRSLTRLE CSGTISAHCNVRLPGSSDSPVSPSRVAA RA |
| 11961 | 25862 | A | 12069 | 270 | 375 | TRIKRCNGGRAQWLTPVIPALWEAKAGE SPEVRSS |
| 11962 | 25863 | A | 12070 | 197 | 350 | KKIYIFLTINTIMDLIIPFLLDNILGFW LGAVAHACNPSTLGGRGGWITRS |
| 11963 | 25864 | A | 12071 | 3 | 378 | HEGQLPEPLKGLWTAHLLGMAPGSRTSL LLAIDLLCLPWLKEAVAVQTVPLSRLYD HAMLQAHRAHQLAIDTYQEIEETYIPKD QKLSFLHEYQTSFCFSDSIPTPSNMEET LHKSHLELLRIYL |
| 11964 | 25865 | A | 12072 | 219 | 1 | FSHPFPPGVFQTPLVFPRPWEVLGSPGG GGGPPKKWAGVQKWVFFFFFFWEMESC SVAQAGVQWYDLGSPRA |
| 11965 | 25866 | A | 12073 | 134 | 3 | VFGPPFFFFFFCETESHSVAQAGVQWRD LCSLQAPPPGFMPSC |
| 11966 | 25867 | A | 12074 | 175 | 357 | MPINQPVKKMCVCVCVCVYIYIHTPLYI RVYMYMCMYICVYIHVYIWMCIYIHTHV STYVW |
| 11967 | 25868 | A | 12075 | 193 | 350 | KIPHLTSLYHTQNYLKYCIGQAWWLTPV IPALWEAEAGGSPEVRSSRPAWPW |
| 11968 | 25869 | A | 12076 | 252 | 1 | GVFGPFPKKGGFFWVKGFLGTPQIFWVG VFFKKKGGALWVKGLLGKPPPPPLFFFF FETESCSVARAGVQWRDSVKKKITIARA |
| 11969 | 25870 | A | 12077 | 273 | 366 | IFIYLFIYLFETESCSVSQAGVQWPNLG RLR |
| 11970 | 25871 | A | 12078 | 127 | 2 | KKKKTLFFFFFFFFFEMESRSVTQAGVQW CDLSSLQPPPPLV |
| 11971 | 25872 | A | 12079 | 206 | 334 | HNRVTIVNNNLIVHFKITKRCWTQWLTP VIPALWEAKAGGSSE |
| 11972 | 25873 | A | 12080 | 135 | 2 | KMKRKFGEDSQIPKTLQTFFFLTESRSV AQAGMQWCDLGSLHSC |

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|--|---|----------------|--|--|---|--|
| 11973 | 25874 | A | 12081 | 147 | 3 | ATTPGLFFIFYFFETESHSIAQAGVQCM ISVHCNLCLPGSSDSPVLV |
| 11974 | 25875 | A | 12082 | 106 | 2 | YFIPINEGYCFIYLFFETESRSVVQAGV OWCDLV |
| 11975 | 25876 | A | 12083 | 164 | 346 | CPYKKRKKANQAKWLTPVIMLFGRPRRV DRPSSGVQDKPGQHGETPSLPKIQKKSQ AWWCA |
| 11976 | 25877 | A | 12084 | 186 | 1 | KSLFSKGNPLFKGPPPPPFFFFFFFETR SRSVTQAGWGAVIMAHCCLNLPGPSDPP TPAPRA |
| 11977 | 25878 | A | 12085 | 98 | 2 | CPFFRVNFFFFEMESRSVAQAGVQWRDL GSRA |
| 11978 | 25879 | A | 12086 | 154 | 2 | SPTPEKGVWELPSPFFSWGPKIWGCIFF FLYETESGSVAQAGVQWRDLGS |
| 11979 | 25880 | A | 12087 | 326 | 3 | KTSVITCGLPMGWSWGPFPKGPWWCKKF CVCKFWANQTLKKNLGAGRFQKPFSAAA FLEMGGFPFKFFRFFQGSQFFFFFFFET ESCSVTQAGGQWCNLGSLRPLPP |
| 11980 | 25881 | A | 12088 | 154 | 3 | KEFSFFAPGGKQRGEIRSLRGPPPQVKP LFFFFFFETESRSVAQAGVQWR |
| 11981 | 25882 | A | 12089 | 174 | 2 | SWKAILQYSLEIILYLPSFQIFLCFSHT HTHTHTHTHTHTLYSQIMVLLLPSLRKK GS |
| 11982 | 25883 | A | 12090 | 265 | 30 | WFIVYSEISQLWGLPSFNTLGTWQSLSF IFVAEMRSCCVTQAGLELLASSDPPVSA SQSARIRAMSPSVAWVIPGRSR |
| 11983 | 25884 | A | 12091 | 257 | 1 | GSVMRMHTEEQYPENKVEQSSSGFIRPH LVYRVCFYLSVCLSVCLSIYLSIYLSIY LSFFLSFFLLRKSLYLSIFLSFFLLSPR V |
| 11984 | 25885 | A | 12092 | 311 | 404 | LYHQNPWLYSVFFFLETESCSVAQAGVQ WCD |
| 11985 | 25886 | A | 12093 | 331 | 83 | GDDYKGARENSRDDKLFYVLIMMVVIQL HVFVKIHKTLQLNGYILLCKLYLINLTK NNFQKPKTNSQKTLHIFHPDSTAANI |
| 11986 | 25887 | A | 12094 | 82 | 2 | LREPNLLNPGGEGCNEARWCHCTPAL |
| 11987 | 25888 | A | 12095 | 255 | 393 | HGILFSSFVCNLNQFLSQHWLMPVIPAL WEAEVGGSLEPRSSTLAW |
| 11988 | 25889 | A | 12096 | 80 | 3 | PFFFFFFFETESRSVARLECSGMI |
| 11989 | 25890 | A | 12097 | 367 | 1 | PRVDKPTKMGKKQGRKTGNSKKQSPSAP PKERSSSPATEQSWMENDFAKLREEGFR RSNYSELQEEIQTKGKEVETFEKNLDEC ITRIPNTEKCLKELMELKPKAQELREEC RSLRSRCDQL |
| 11990 | 25891 | A | 12098 | 94 | 236 | MWADYFCMSPSIDEGLKKKKKKKKKKKK KKKKKKKKKKKKKKGGAP |
| 11991 | 25892 | A | 12099 | 410 | 212 | NSLHPSTSLFRFSSHFHIKLISGQAQWL TPIIPVPWEAKAGGLLETRSSRLAWAAQ EDPISMPVCK |
| 11992 | 25893 | A | 12100 | 140 | 324 | NLGQAQWLMPVIPARPWEAEVGRSLAVR SSSNSPASASQSAGPTGPSHHNWLMFLQ LLTRL |
| 11993 | 25894 | А | 12101 | 247 | 357 | KQIQGRAWWLTPVFSPLWEAKAGESPEV RSLRPAWPT |
| 11994 | 25895 | A | 12102 | 245 | 2 | DVLVGGLCLPAGGTLHLTSIFLLSGCWC GSKDEEAPCKQRISVQRESQSRTLRAGV SPKKAHPCEMCGLILEDVLHFPDLQ |

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|--|---|----------------|--|---|---|--|
| 11995 | 25896 | A | 12103 | 230 . | 379 | KEASFFETESHSVSQAGVQWRSLNPLGS GNPPTSTSRVAGTTGMSHHVWL |
| 11996 | 25897 | A | 12104 | 86 | 2 | DGVSVLSPRLECNGLILAHCNLRLPGSS |
| 11997 | 25898 | A | 12105 | 116 | 2 | SQKTPFFFFETVSLLLPKLECNGAISAH CNLCLPGSSD |
| 11998 | 25899 | A | 12106 | 271 | 416 | QFTFSKAFNLVFIKPSFHISFYRTHYSQ AWWLTPVIPELWEAEAGGSP |
| 11999 | 25900 | A | 12107 | 194 | 3 | HVLGTVLVAEDTASNKIRSLQGCLLLPL LFSVVLEVLARAIRQEKEIKVIQIGREE VNRRRGR |
| 12000 | 25901 | A | 12108 | 142 | 3 | LCLLYWDCKRHAWWRGQVRWLTPVIPAL WEAEAGGSPEVRSLRPAW |
| 12001 | 25902 | A | 12109 | 233 | 346 | HQRSLIGWAQWLMPVIPALWEAEAGVSP EVRSLKPAWP |
| 12002 | 25903 | A | 12110 | 234 | 349 | GFSPFYDFCLFVFETESCCVVQAGVRWH DLGSLQPPPP |
| 12003 | 25904 | A | 12111 | 136 | 333 | RLNFFYFYFFETASCSVAQAGVQWHDLA HCIPAWETEQDSISKNTVQKRKKKVTRA GISKTKNENF |
| 12004 | 25905 | A | 12112 | 345 | 110 | QDGLCLVMTLQETQPILAYSLWFPIVFP TTKACNVQGDSKFLLKKKYLGQVQWLMP VIPTLWGADVEGSPELRSLEPA |
| 12005 | 25906 | A | 12113 | 108 | 285 | YNAMKNRFLKTILNNKNSIGWARWLMAV IPALWEAKAGRSPEVKSSRSRPGAVAQV DAA |
| 12006 | 25907 | A | 12114 | 1 | 364 | RVVAAEMGKFMKPGKAALDLAGRYSGRK AVIVKNIDDGTSDRPYSHALVAGIDRYP RKETAAMGKKKIAKRSKIKSFVKVHNYH QLMPTRYSVDIPLDKTVVNKDVFRDPAL KRKARREAK |
| 12007 | 25908 | A | 12115 | 120 | 3 | TQIWGAFLTLFFFFFFEAKSHSVAQAGV QWCSLGSLQA |
| 12008 | 25909 | A | 12116 | 120 | 3 | TQIWGPFLTFFFFFFFFEAKSHSVAQAGV QWCSLGSLQA |
| 12009 | 25910 | Α. | 12117 | 231 | 1 | FLSPFSCYSAITKLLSLSYFLLGHILLL LGSTPEAAAQVVQWVSFADSDIVPPAST WVFPTLGIMHHNKQATENAKE |
| 12010 | 25911 | A | 12118 | 216 | 1 | LIFPPLLNFCYGEVLGFQGFLALFFACM FFWPRFSPKTFFFFFYEKEFHSAAQAGV QWCDLGSLQPLPRGFK |
| 12011 | 25912 | A | 12120 | 267 | 1 | KKKKKAFPSPPLLGCFIRLQKHLLGILV YRSHLISSLLCLEGIILSLFIIATLITL NTHSLLANIVPIAILVFAACEAAVGLAL LVSIS |
| 12012 | 25913 | A | 12121 | 167 | 372 | ISGQDLLKETKRVKRPFQQDDVPFINIF VPTPGAPRSLRQILELRGKTDPSPIIVG DFNTLFSALDRS |
| 12013 | 25914 | A | 12122 | 124 | 2 | GLLKFNIFAPFFFFFFSETESHSVTQAGV QWCDLGSLQPPP |
| 12014 | 25915 | A | 12123 | 121 | 1 | RFTAASANSGAVSAAVGYMGDPGSEIIE SVPPAGPVSSVV |
| 12015 | 25916 | A | 12124 | 176 | 2 | RDLRGFSRFSNYKFWNFGRVGGIFKFVF GKGVKRFFFFFFETESCSVAQAGGQWRD LG |
| 12016 | 25917 | A | 12125 | 137 | 2 | KLGFFGGGGKIFAPQKNFFFFFFFF MESCSVAQAGVQWRDIG |
| 12017 | 25918 | A | 12126 | 103 | 3 | LEENLGNTIQDIGRGKDFTSKTPKAMAT |

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|--|---|----------------|--|---|---|--|
| 10010 | 0.5010 | 7 | 10107 | 212 | 2.51 | KAKID LITFEILNICLGDNILDLGLARWLTPVI |
| 12018 | 25919 | A | 12127 | 212 | 351 | PALWEAKAGGSPEVRSLR |
| 12019 | 25920 | A | 12129 | 187 | 3 | RGSTMQQTNTRTPGVRVLYYILMIATMA IPYIPMANLLLLIVPILIAMAFIMLTER KILGY |
| 12020 | 25921 | A | 12130 | 13 | 329 | ASRVTIRVMASNSTKSFLADAGYGEQEL DANSALMELDKGLRSGKLGEQCEAVVRF PRLFQKYPFPILINSAFLKLADVFRVGN NFLRLCVLKVTQQSEKHLEKI |
| 12021 | 25922 | A | 12131 | 231 | 330 | MDTDEIYLGRAPWLTPVIPALWEAKASG SPEVR |
| 12022 | 25923 | A | 12132 | 95 | 2 | KGKCFPPFFFFETESRSVAQAGVRWRDL SSL |
| 12023 | 25924 | A | 12133 | 129 | 1 | DLALLPRLWCSAMIMAHCNSELMSSSDP PISASQIPGTIGMCH |
| 12024 | 25925 | A | 12134 | 196 | 361 | TIMEYYAAMKKKSESPLLHFQGKKLNQD GGWAWWPTPVIPALWKAKTGGSLEPRS |
| 12025 | 25926 | A | 12135 | 120 | 1 | PPPPGLFFFFFFETESYSVAQAGVQWCN LGSLHPPPPEFK |
| 12026 | 25927 | A | 12136 | 235 | 3 | KKGIRIERDRLKQLSVCQRFQLAKFPPF PSGVGEKQNFFFKKKKKKKGRAQWLTPV IPALWEAEAGGSFEVRSSRPA |
| 12027 | 25928 | A | 12137 | 185 | 1 | IWCPFFCPGPQICSFRCHFFFPFFFFF LEAETRSFAQAGVQWCDLGSLQSSWVTE LAAAS |
| 12028 | 25929 | A | 12138 | 158 | 1 | LRRGGVFSIFFCGGTMVLSPADKTNVKA AWGKVGAHAGEYGAEALERMFLSF |
| 12029 | 25930 | A | 12139 | 76 | 3 | KVLARAIRQEKEIKDIQIGKEEVK |
| 12030 | 25931 | A | 12140 | 157 | 2 | FFSSPRLLKRRPGNFLGARENFFFFFFS ETESPSIAQAGEQWRDLGSLQAP |
| 12031 | 25932 | A | 12141 | 234 | 388 | LSQLMSANLFFVLLFEAEFHSVNRLECS GMIWAHCNLHLPGSSESPASTSQ |
| 12032 | 25933 | A | 12142 | 112 | 453 | LGRRQAASMREGISIHVGQAGVHIGNAC WELYCLEHGIQPDGHMPSDKTIGGGDDS FNTFFNETGAGKHVPRAAFVDLEPTAID EVCTGTYRQLFHPEQLITGKEDAANNYA RG |
| 12033 | 25934 | A | 12143 | 44 | 443 | AKLGTRKLPLKAKMGKEITLINIVVIGH VDWGKTTTTGHLIYKCGGIDKRTIEKLE KEAAEMGKGSFKYAWVLDKLKADRERGI TIDISLWKLDTSKNYVTIIDAPGHRDFI KNMITGTSHADCAVLIDAAGV |
| 12034 | 25935 | A | 12144 | 3 | 386 | REAATMRECICIHVGHAGVQNGNACWEL YCLEHGIQPDGHMPSDKTIGGGDDSFNT FFSETGAGKHVPRAVFVDLEPTGIDEVR TGTYRQLLHPVQLITGKEDAANNYARGH YTIGKEIIDLVLDRIR |
| 12035 | 25936 | A | 12145 | 3 | 386 | AGATYIDRLRVALFEATTFTLWVRPELS SGEATTMRECMSIHVGQAGVQNGNACWE LYCLEHGVQPDGHMPSDKTIGGGDDALN TFFSETGAGKHVPRTEEVDLEPTEIGEE GTGTYRQLFHPEQHMM |
| 12036 | 25937 | A | 12146 | 3 | 385 | GRATYIDRLRVALLEATTSTLRLRRELG SREATTMREGICIHVGQAGVQNGNACWE LYCLEHGIQPDGQMPRDKTIGGGDDFFN TFFIETGAGKHVPRAVFGDLEPTDIGEI RTGTYRQLLHPEQLI |

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|--|---|----------------|--|--|---|--|
| 12037 | 25938 | A | 12147 | 11 | 381 | HTPEGRTRVPVLIAGVVYCQEALRDWGR VTASSTGAMAFLRSMWGVLTALGRSGAK LCTGCGSRLRSPFSFVYLPRWVSSVLAR CPKKPVSSYLRFSKEQLPIFKAQNPDAK TTELIRRIAQR |
| 12038 | 25939 | A | 12148 | 321 | 509 | YSMDQYFIPFYCQIMHLCFFLKTRVSLL FPWLECSGATSAHCNFCLLSSSNSPASA SRVTGIT |
| 12039 | 25940 | A | 12149 | 51 | 400 | AATMRECISIHVGQAGVHIGNACWELYC LEHGIQPDGQMPSDKTIGGGDDSFNTFF NETGAGKHVPRAVFVDLEPTVIDEVRTG TYRQLFHPDQLITGKEDAANNYARGHYT IGKE |
| 12040 | 25941 | A | 12150 | 25 | 399 | EATTSTLGLRHQLGSRESTAMRECISIH VGQAGVHIGNACWELYWLEHGLHPDGQM PGDQTIGGGDDSFDTFFSETGAGKHVPR AVLVDLEPTVIDEVRTGTYRRLFHPEQL ITGPEDAANNYAR |
| 12041 | 25942 | A | 12151 | 1 | 402 | TKEEELCLACRORRADGGWRSOMNAGSD PVGIVSAARTIIGSFNGALTAVPVQDLG STVIKKVLKRATVAPEDVSEVIFGHVLA AGCGONPVRQASGGAGIPYSVPAWSCHM ICGSGLKAVCLAVQSIGIGDST |
| 12042 | 25943 | A | 12152 | 3 | 400 | TDRLRVALKKTTTSSFCFPHHLGSRETA TMRECISIHVGQAGDHIGYACWELYCLE HSLQPEGQMPGDKTIGGGDDYFNTFFSE TGAVKHVPRAVFVDLEPTVIDEVSTGTY RQLFRPERLITSKEDAVNIY |
| 12043 | 25944 | A | 12153 | 2 | 398 | GRCALDRNTFIFARFGCYLIASGHPGEK LMDMDMSPLRPQNYLFGCKLKAENDYHF IVANDENEHQISLTTASLRAGANDDMNI VEAEAMNYEGTPIKETLATLKMSVQATD SLGGSEITPPSVLRLKCGSR |
| 12044 | 25945 | A | 12154 | 203 | 405 | FTCPSRIICVISRRISPCCAPDLNPMLS ANAMLDFVFTVEDPGGWDSKNLQKKWSH YSFLTGIRPKI |
| 12045 | 25946 | A | 12155 | 229 | 397 | TKIAHHKAGFALISKKITKNLKMFLSKF LPIHALWVTGSSGMQPYPLVWGHYDLGK |
| 12046 | 25947 | A | 12156 | 2 | 399 | GGVPHCVWATAWGMRPGLPGPTGLCAQT SSRGQKSVLKQKESCGIWQLYHFLSRKQ EPRWEPCVSGSSSGDGAVADLADELRGY PALCCTLPVHSYRSWAGIRPQIMNGPLH PRPLVALLDGRDCTVEMPIL |
| 12047 | 25948 | A | 12157 | 85 | 414 | ALLPQSEALQGAVTMPHSYPALSAEQKK EVSDIALRIEAPGKSILAADESVGSMAK RLSQIGVENTEENRLLYRQVLFSADDRE KKCIGGVIFFHETLYQKDDHGVPFVR |
| 12048 | 25949 | A | 12158 | 85 | 407 | GLLPHSEPLQRAVTMPHSDPALYAEHKK DVSDIALRIGSPGKGILAAYESMGSMAN PLNQMGVENTKQNRRLYRQDLFRAEDRE KKSLAGVIFFHDTLYHKDDNGVP |
| 12049 | 25950 | A | 12159 | 85 | 406 | VLLPHSEALEGAVTMPHSYPALSGEHNK ELSDIALRIVAPGKGILAADESVGSMAK RLSQIGVENTEENRPLYRQDLFSADDRG KKSIGGDLFFHDTLYQKDDNGGP |
| 12050 | 25951 | A | 12160 | 275 | 146 | EKTFIISFFFFFETESHSVAQTGVQWHD LGSLQAPPPWFRRIA |
| 12051 | 25952 | A | 12161 | 212 | 2 | KRSRPFFFFFKEMGSCYIAQVGMQWLFV |

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|--|---|----------------|--|---|---|--|
| | | | | | | GTITACYDPELLGSKDPPTSASQVTGNT GTHTHTOLIFVFLV |
| 12052 | 25953 | A | 12162 | 253 | 2 | GRVDSECCLANGNAEKSIFCCLLVYLFY LSSRQSHSVAQAGVQWHDLGSLQPPPPG FSLLSRVAGTTGARHHDWLIFVFLGET |
| 12053 | 25954 | A | 12163 | 228 | 1 | LLGLWFEQLGRFTKIAKTKGERSQTQSG HSMDMRVPAQLLGLLLLWFPGSRCDIQM TQSPPAVSASVGDRVIITCR |
| 12054 | 25955 | A | 12164 | 122 | 1 | RLLFFETESRSVARLECSGAISAHCSLR LPGSGSSPASAS |
| 12055 | 25956 | A | 12165 | 239 | 350 | GQARWLTPVIPALWEAKASKSLEVRSLR LAWAGHGGS |
| 12056 | 25957 | A | 12166 | 235 | 359 | TDKAISKRDLSVLREIIFFEMESRSVAR MECSGVISARCNL |
| 12057 | 25958 | A | 12167 | 209 | 396 | QFSGIPFDQYKCGFKNYIYIYIYIYIYI YIYIYRKYTRAYTKRYMCVFSRATHNIV YLCAYI |
| 12058 | 25959 | A | 12168 | 327 | 130 | GGVGFLGGPGEKPPRPSPFFFFFFEKES RSVPQARVQWPDFGSLPAPPFGFTPFLR ESFLFSSLMI |
| 12059 | 25960 | A | 12169 | 317 | 422 | RGEKPLFFFLQKKKKKKKKKKKKKKNIKKG GRRYKPS |
| 12060 | 25961 | A | 12170 | 260 | 375 | EKVTCSWTQWLTPVIPALWEAKAGRSLE FRSLRSAWAI |
| 12061 | 25962 | A | 12171 | 304 | 3 | KFFFFFKGFFFLGGVGPIFPPPKKRFFS KIPPGVFFFPPLKKKIFFFFPPVILGPP RVFFKGAPLFFFFFFFFFFSETEFRSC CPGRLECSVAVSAHCK |
| 12062 | 25963 | A | 12172 | 105 | 3 | LIFLRQSSALLPRLECNGAISAHCNLCL TGSSD |
| 12063 | 25964 | A | 12173 | 146 | 17 | RIFFFFFLGQSLAVAQAGVQQRDLGSLK APPPGVHAILLPOEY |
| 12064 | 25965 | A | 12174 | 234 | 2 | LFPRKPKPSVSLSLSLSLSLFRLRKLSS FMRHNNIEVRPINNPAMTSKCSSERKSL VSFTLNLKPGMIRLSEEGMLK |
| 12065 | 25966 | A | 12175 | 292 | 380 | VRGLGRVAHTCNPSTLGGQSGWITGGQE F |
| 12066 | 25967 | A | 12176 | 109 | 1 | GRIKKVIKGQAQWLMPVIPALWEAKVGG SPKVRSSR |
| 12067 | 25968 | A | 12177 | 170 | 291 | LINFYFYFLRQSHSVTQTGVQWCNLGSL OPPPAARRRRRG |
| 12068 | 25969 | A | 12178 | 260 | 380 | LTYIALFIFLRRSLTLLPRLECSGMISP HCNLCLLGSSDS |
| 12069 | 25970 | A | 12179 | 54 | 166 | PKRGFHRVTQEGLNLLTLGSPRLGLPKG WDHRQDPLP |
| 12070 | 25971 | A | 12180 | 273 | 359 | APAGHGGSCLQSQHFGRLRQADHLGSGV R |
| 12071 | 25972 | A | 12181 | 27 | 225 | IGQAQWLTPVILAFWEAKAGGSLEVRSS RPAWPIYFLVLLASYLRRFCLIQGHSDL LYTSSTRGS |
| 12072 | 25973 | A | 12182 | 1 | 155 | VHKIFIAYKYSGFQTVFRGRAWWLTPVI PALWEAKANRSPEVRSSRSGRRG |
| 12073 | 25974 | А | 12183 | 91 | 2 | FNLFFFFFFETGSRSVARLECNGAISAC C |
| 12074 | 25975 | A | 12184 | 122 | 2 | GQAQWLTPVIPPPWEAKVGKSPEVRSSR RTRGRTRGRTRG |
| 12075 | 25976 | A | 12185 | 389 | 20 | TDRGRRARRACFCGKVFDGELSFALKLA |

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|--|---|----------------|--|--|---|--|
| | | | | | | THYFHDVLLDMHFSGLTYTVLSLFFSDP DMHPLDFSLLNRREADBEPEDDVLMQKA AGLAGGVLFLI |
| 12076 | 25977 | A | 12186 | 180 | 393 | LNPGSGGCGEPRSRHCTLAWVTERESVS KNKIKIKINKQIEEGFLFQPFGQGFIWC YFPAKEFIIALSKT |
| 12077 | 25978 | A | 12187 | 37 | 443 | PDFPIPFPPRKVQHLARPSPKTARPAWT IRRILPPPPKKRHPPGLARGKFGPRELA KAGLAKECPAGGPTPAVRFATPTRGGGG RVAGFQTPMGIPMGKARLGLLTFLGFAS GWIGAYRPRETLCGGELVDTLQF |
| 12078 | 25979 | A | 12188 | 3 | 411 | AFPENAATGSTFQDPVPASKGRAEVGNM RLSVAAPISHGRVFRRMGLGPESRIHLL RNLLTGLVRHERIEAPWARVDEMRGYAE KLIYYGKLGDTNQRAMRMADFWLTEKDL IPKLVQVLAPRYKDQTGGFTRMLQ |
| 12079 | 25980 | A | 12189 | 2 | 414 | QEFGTRKRATFISLLFFFSSVYSRGVFR RDAHKSEVAHRFKDLAEETLRALTLIAF AHYLHQCPFADHVKLGNEATEFAKTCVA DESAENCDKSLHTLFGDKLCTDAPLRET YGEMADCCAKQEPERNECLLQHKDD |
| 12080 | 25981 | A | 12191 | 3 | 514 | PRLLMEAGPHPRPGHCCKPGGRLDMNHG FVHHIRRNQIARDDYDKKVKQAAKEKVR RRHTPAPTRPRKPDLQVYLPRHRDVSAH PRNPDYEESGESSSSGGSELEPSGHQLF CLEYEADSGEVTSVIVYQGDDPGKVSEK VSAHTPLDPPMREALKLRIQEEIAKRQS QH |
| 12081 | 25982 | A | 12192 | 182 | 3 | RGLFFIPPPPIKTKIWGPFWKVVFMGFG PPLFFFFEMESRSVAQAGVQWHDLGSLQ ALP |
| 12082 | 25983 | A | 12193 | 53 | 400 | PETPSWLGPVRRFYFIIIKSVWKWKKKK KKKKKKKKKKKKKGGGPFKKTLGGDKFYW GVKKKIFFFLGGSKKHPWGFFEKKLFFG GGKCGAPPPKDISCLWGKKNFLGAIGEK TCCC |
| 12083 | 25984 | A | 12194 | 182 | 3 | KGIFIQIAPPKKKKNWGPLWKVVFKGFG HPIFFFFEMESRSVAQAGVQWHDLGSLQ ALP |
| 12084 | 25985 | A | 12195 | 200 | 378 | KSSKSQWLGYLFIGLLTYLFIKFFLETR SCFVTQAGILAHCNLKLLGSSDPPTSAS QAA |
| 12085 | 25986 | A | 12196 | 341 | 54 | SLSFHGGLSVLCIFSTYKKLSQEQWLTP VISVLWEVKVSRSPQVRSLRPGDPPASA SQSAGITGVSHHARPHLSLNPRLEMIKL SEEGMLKRMTG |
| 12086 | 25987 25988 | A | 12197 | 1 | 462 | GGPPRPFRMKAAVLTLAVLFLTGSQARH FWHQDEPPQSPWDRVMDLATAYVDGLKD SGRDYASQFEGYALGKQLNLMLLDNWDS VTYTFSKLREQLGPVTQEFWDNLDKETE GLTHEMSKDLEDVNAKVQTYLYDFQKTW QKELTFTAESEPVP |
| 12087 | 25988 | A | 12198 | 80 221 | 3 | SNKVFFLETESCSVAQAGVQWCDLGS TMGIMLDKKEIQAIFSFKFKMGHAVAET |
| | | | | | | TCNINNTSGPGTANKVTVQWWFKKFCKG DESLEDEEHHGRRLEV |
| 12089 | 25990 | A | 12200 | 239 | 336 | FGALPITTCKFGKKKKKKKKKKKKKKKK |

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|--|---|----------------|--|---|---|--|
| 12090 | 25991 | A | 12201 | 279 | 266 | KKKKKKKKKKKK KKKKKKKKKKKKKKKKKKKKKKKGFK |
| 12090 | 25991 | A | 12201 | 153 | 366 40 | GFLFLIFFFETKSRSIIQAGVOWCHLG |
| | | | 12202 | | | CTLAWATETD |
| 12092 | 25993 | A | 12203 | 317 | 406 | LGKLKCNGAVSGHCNLRLPGSSDFSGSA S |
| 12093 | 25994 | A | 12204 | 2 | 925 | RSGPDHELTLDSGKGCTRSMVPASAASE DRRKLPIIVEDEGGPTRSRACSSPARGS RPPPSAIGCSPVAQASDSAAGPARRTAL QSLSSWLGYQIDRHSVPVYVFKSPLFSV IMAPKHKSSDAGNLDRPKRSRKVLPLSE KVKVLDLIRKDKKSYAEVAKIYGKNESS IREIVKKEKEIRASFAVSPPTAKVTATV RDKCLVKMEQALHLWVEEMNRKRVPIDS NMLRQKALSLYQDFSKGCSETDTKPFTA SKGWLHRFRHRFSHHYKKKKKGIMAQVA VSTLPVEEESSSETRMVVTFLVSALESM |
| 12094 | 25995 | A | 12205 | 272 | 1 | KMARAGLLVIEGKVWRTVYYRFATREER EGKMSTNLMNKLDTIGFDNKKDLLISVG DLVDRGAENVECLELITFPWFRAVRGNH ERQPGQ |
| 12095 | 25996 | A | 12206 | 166 | 478 | ISASGLLPTSPLTGTSKLQDPNEHLNLL MLNRVSLLLPRLECNDTILAHYNLRLPG SSNSPDSAFQVAGITESFTCEINALKDS SQVALWSFRCEMDHSSICNR |
| 12096 | 25997 | A | 12207 | 102 | 497 | PLLALLFGSQKTFLCLQLSLKPTRSSLL SPGSAGNPENEAPCPQLNPEATSLKKKK KKKKKKKKKKKKKKKKKKKKARG |
| 12097 | 25998 | A | 12208 | 131 | 2 | FGFLGGDKAKGKGPGPPFFFFFETESPS VAKAGVQWCDLGSLH |
| 12098 | 25999 | A: | 12209 | 221 | 499 | QTRHKLTNSRSGRTGLQILIKEQHSSGR WCGTGDILWQSLEDTICYSVPKSLLDFL LFIYFETESHFVTRLECSGAISAHCNLR LLGSSDSPA |
| 12099 | 26000 | A | 12210 | 297 | 398 | HNFFFFLKTESCSISQAGGHWYDLSSPQ PPPPG |
| 12100 | 26001 | A | 12211 | 341 | 452 | NWSPGLKQSSRLSLPKCWDYRREPPCLA GLLAYLFRR |
| 12101 | 26002 | A | 12213 | 214 | 468 | FFFFFFWGKGVFFFFPPLEGRGGNSVYW TPPPRGKKNFPPLGLGKMGNNPPPPPPR FFFFFFKKKGVFFLGPGGVKTPSLRETP P |
| 12102 | 26003 | A | 12214 | 223 | 477 | CPTETQLQLIFAREKHKPSPVLLDLDLY GFFFEMESHSVSPLECSGPISAQSNLYL LGSHNSPA |
| 12103 | 26004 | A | 12215 | 263 | 55 | TPKRYGKMQTATYLPKSKIYIIISDLRK QDYIVYKQSKKPEGWAQWLTPVIPALWE AKAGRSPKVRSSR |
| 12104 | 26005 | A | 12216 | 328 | 471 | GVIHAQVLHAHTHTHTHTCTHTQVHAHS |
| 12105 | 26006 | A | 12217 | 434 | 1 | WDHSASPPTSVGTPLRADGPHPRLTAPG HVVGSSAMLSAPAAGRRGLSLGRWCDRD KLSQRGPQPKWILWWGNLPGGGFLHRHI HKPLPTIPIPSTVRGEEVLQQLLHSASF ILFIFIFLDRVSLCHPGWSAVARSRFTT TSTS |
| 12106 | 26007 | A | 12218 | 304 | 43 | EKPIGVAPSRVKKRAGGGEKTECCLLKG PLQGFQGVLKGPLKLNGPLFFFFFLRRS LALFRLECNGTILAYCNLCLLGSSDSPA |

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|--|---|----------------|--|--|---|--|
| 12107 | 26008 | A | 10010 | 171 | 265 | SEI ALVOPRAGREAVTVPACCSCSDVFLYET |
| 12107 | 20008 | A | 12219 | 171 | 365 | NKVARIQSINYGTIKFFHVIVFSYVSKE HLKRKLEK |
| 12108 | 26009 | A | 12220 | 171 | 452 | ARYKFLHPKFAFGLYPSSSQIQGARHQL WILIKCSFYLLFLRQCLTLLPQLECSNM ITAPLQPQLPGLKQSSHLSLPSSWDYRH EFP |
| 12109 | 26010 | A | 12221 | 323 | 458 | FRVQRSLFLFIYFFETESHPVVQAGVQW HDFGSLHRISP |
| 12110 | 26011 | A | 12222 | 189 | 56 | DRVSLVQPTLECSGTISVYCSLNLLGSS DPPTSASPVASTTGGI |
| 12111 | 26012 | A | 12223 | 246 | 494 | FLCSSYAYDDHFLRPFFPIHLILDITAF SQDTIISNLLFQDACSVPKKAANLGQAQ WLAPVIPVLWEAEVGRLLEVRSSRPAW |
| 12112 | 26013 | A | 12224 | 55 | 353 | RIQGCSCWVKLCPKVEKWVQRTDAEQES QTKAEIQDMKQELSAVNMMDKFARSARL ERKINKMMNKLKTHVKVQTAQSGMLKWV ISVAFYKLPGTVIRL |
| 12113 | 26014 | A | 12225 | 199 | 23 | LKLSSIYYVPGTILKYFTGWARWLLPVI PALWEAEVGGSPEVRSSRPANSTSWIER HQ |
| 12114 | 26015 | A | 12226 | 369 | 14 | DCVRVGLSYPQTVCPSCESVRKAPFSSR PHRGVLESGQPRCKSRRVDIFFSMERER DRERERERERERGQKRTRRVWGGERE KLGYSHAWGWRGGRGLGWGGMCGIPPPC TSDVHQ |
| 12115 | 26016 | A | 12227 | 206 | 2 | QNGHMNGGPCRVSLSLFLETRSFLFFLA SLSMLECSGAILAHCNLRLPGSSNSPAS ASQVAGITGACH |
| 12116 | 26017 | A | 12228 | 231 | 501 | RSWEGQALHGSDPLASCTRIQSNYMALQ RINQELEDKLYRMGQHYEBEKRALSHEI VALNSHLLEAKVTIDKLSEDNVSAAHTW PMEDCR |
| 12117 | 26018 | A | 12229 | 86 | 455 | DLPTFPVPPHPGFSGPLLGQSELPSNCQ TGGRSHLSVSVLCPTLATTPLGLDFPTC GTSQLPLGPLQLAHRSELAGLSLPGLST NCTSQRLPDRPHRHSDAPHTHTHTQTHT HTHTHTPATVT |
| 12118 | 26019 | A | 12231 | 211 | 96 | KSHFKAGGGGPPRYSPPFGGGGGGVFRV GGFPPPGLTQ |
| 12119 | 26020 | A | 12232 | 228 | 3 | KRWFIKGFLSKGLGPPPPKLKFLGFFFF FFFEQSFVLVAQAGVQLECSGTILVHFN LYLPGSSNYPASASHPRV |
| 12120 | 26021 | A | 12234 | 137 | 3 | VPLPGTLKNHSMVPCFLFVCLFVCYETE SHSVAQAECSGAISAH |
| 12121 | 26022 | A | 12235 | 139 | 1 . | FKLCFGQAWWFKPIIPALWETDASRSLE VRSSRPADAWADAWADAW |
| 12122 | 26023 | A | 12236 | 80 | 1 | VLLIFIFLEEMGFHHVGQDGLDLLTL |
| 12123 | 26024 | A | 12237 | 187 | 494 | TERNSFNINKKDIHTKTPFVGYQHQRPK VDKTTKMGRNQSRKAENSKNQSTSSPPK DRSSLPATEQSWTENDFDELTEVGFRRS AITNFSELKEHVLTRRTE |
| 12124 | 26025 | A | 12238 | 252 | 503 | CQGVGADDLQSQAEIQCELCAESIDRFD ILFFFFLGLGPPHKNPPPPTPQKWKPGK APPLALWDIPRGAKGPGRQPGRPAIHTC |
| 12125 | 26026 | A | 12239 | 2 | 471 | RIALCPAVRIRHEERERERERERETP GHTQLSPGARRTPPLERERAFNDCFSLN |

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|--|---|----------------|--|--|---|--|
| | | | | | | YPGNLCPGDLIEVFRSVYQHCALYLGDG YFINITPVYGIPAFFTSAKSVFFSRALE KTHLLKDVVGSDTYRINYICYETLPSLS VEEIITRSEFVIGQEA |
| 12126 | 26027 | A | 12240 | 14 | 149 | FMTACRIRHEMGRGLLRGLWPLHIVLWT RIASTIPPHVQKSALPH |
| 12127 | 26028 | A | 12241 | 588 | 671 | RSRPSFQEQAFESSQKYKEGKYIIELNH |
| 12128 | 26029 | A | 12242 | 384 | 464 | RGGQVWWLKPVVPALWEAKAGRSLEAG |
| 12129 | 26030 | A | 12243 | 325 | 459 | TYLFIYLFIYFETESCSVAQAGVQWRDL VSLQPLPNSPALPTN |
| 12130 | 26031 | A | 12244 | 323 | 457 | SLQRECGPADTFFEMDSCSVAQAGVRWC DLGSLQNSP |
| 12131 | 26032 | A | 12245 | 241 | 466 | GALFFFFFFFFFFFFFFFFLSNKAVY F |
| 12132 | 26033 | A | 12246 | 385 | 37 | QARRRCLQTSRMEALGRWSYKVTIEFPL QILFFPPILKYKVIFGIKITPNFHFLEE YEEGQRLGKSTVSWVFNEDTRLINIWNR HITVNPRTNSQNRMLKMAHESKYSQVPF PLQA |
| 12133 | 26034 | A | 12247 | 318 | 456 | LILKYFMYVCMYVHMYVCMYIKSCSVAQ DGVQWYDLGSLQPPPPGL |
| 12134 | 26035 | A | 12248 | 362 | 473 | SPCQNNMNSAKTEARTNIKFMAKLMWKN GAIIDALQK |
| 12135 | 26036 | A | 12249 | 310 | 463 | FSIKTRKNALGKLQSLLRCHQFYLYVCV CVCVCVCVCVCTRTYAILTCIAV |
| 12136 | 26037 | A | 12250 | 169 | 54 | EAKSGQARWLTLVIPALWKAKAGGCPEV RSSRLAWPIW |
| 12137 | 26038 | A | 12251 | 49 | 449 | GIPATSTSCVQVILLPQPPLLLGLQDSF LPQEIIIKVEGEDTGSLTIPSQEGVNFK IVTVDFTREEQGTCNPAQRTLDRDVILE NHRDLVSWDLATAVGKKDSTSKQRIFDE EPANGVKIERFTRDDPWLSSC |
| 12138 | 26039 | A | 12252 | 130 | 428 | RWGLAMLPRLVLNSWSQVILPPQPQVGA TFGGFPNPPGHWKLLGGISSGEEAGVEE AEEGQALGFLGQFPPSSPQLLLQTSWCL RTTRTCRWSLLWKAH |
| 12139 | 26040 | A | 12253 | 204 | 54 | PGMHKTQKSDLGQVQWLTPVILGLWETE AGDSPESRSSRPAWAKHKIVR |
| 12140 | 26041 | A | 12254 | 375 | 470 | SLCLFFSFFFQTEPRCVAQAGVQWRHLS SLQP |
| 12141 | 26042 | A | 12255 | 432 | 512 | GQVRWLTPVIPALWEAEGGRSPEARSS |
| 12142 | 26043 | A | 12256 | 232 | 1 | KGALSKKTQSFWGGQKFFPRPGVFKGVF FWGGGFCFFVFGGFFFFFFFETESCSV AQAGVQWCSLGSLQPLPPRFK |
| 12143 | 26044 | A | 12257 | 22 | 123 | RFVCSTIKVLRDLSSDRSNPGRFLSTSN SSSTRP |
| 12144 | 26045 | A | 12258 | 71 | 362 | QTERNSISINKKDVHTETPSKGHQHQRP KVDKSTKMRKKQRKKAENSKNQNASSPP KDHNSLPAREQNWTENEFDELTEIDFRR WVITNSSELKEHV |
| 12145 | 26046 | A | 12259 | 375 | 3 | SPNIEAPPKAFFFFNQRHFVFCFFSCRA ENTHEIVWVKVYPFSNQSKAKLFFSFFV QRDRSSPDSYLMPLQLQMWDTAGQERFR SIAQSYYRSANALILAYGITCEESFRCL PEWLRQIEQYA |
| 12146 | 26047 | A | 12260 | 98 | 1 | KYQIDLGGRGSSNSPASASRVAGITGTH |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|---|--|
| 12147 | 26048 | A | 12261 | 125 | 3 | LFLIQKYITGQERWLTPVIPAPWEAEAG |
| 12148 | 26049 | A | 12262 | 228 | 385 | RSPKVRSSSPAW SCLYLQMIPSSIEKSQGMYKKATRGRAR |
| 12149 | 26050 | A | 12263 | 227 | 369 | WLTPVIPALWEAGAGRSPEVRSSR MLKHKSNKNLQDLGQMQGLTPVNPVLWE |
| 12150 | 26051 | A | 12264 | 102 | 487 | AKVGGSPEVKNSRPAWPTW QQNRFFGTERGRGTGRGVSSFPQLSPGS LELASSPSPSVGRLGSAASQRSRGGQER PKAQLRRPPRPSSSPRLRGRENCAHHAR TPGGILDRPPPTLGTNLLKGGRPAWMAG NPPEAHKTANGPGEQA |
| 12151 | 26052 | A | 12265 | 391 | 476 | PRSYRVECSGSISAHCNLGLLGSSNPSS |
| 12152 | 26053 | A | 12266 | 378 | 476 | MSSRLGSLEVGILGRAWWLTPVIPALWE AKEGG |
| 12153 | 26054 | A | 12267 | 166 | 58 | NFFFFFETDSCSVAQAGVQWHDLSHCN LCLPASSN |
| 12154 | 26055 | A | 12268 | 209 | 49 | TPPNFYIKISRSGQAQWLTPVIPALWEA EAGRSPEVRSSRPASPTRRNSISNS |
| 12155 | 26056 | A | 12269 | 127 | 1 | SSSFFPLKTFGFLFFFLCFFESESRSVA QAGVQWCHLGSLQA |
| 12156 | 26057 | A | 12270 | 154 | 27 | IQTPGKKEFFFFFFETKSCLVAQAGARL CPKKKEKENSNFVL |
| 12157 | 26058 | A | 12271 | 180 | 22 | VLKIHNIGRAQWVTSVIPELWEVKAGGS QALRSSRAARTRWDACNFVEKTQVY |
| 12158 | 26059 | A | 12272 | 207 | 422 | GDSSTRGADEKPKEGVKTDNNNLINLKV MGQDCSMEQFKIKSHIPAGYGGSHRESQ HFVMPRWADHLRSGV |
| 12159 | 26060 | A | 12273 | 59 | 479 | NSLGGGGVYGSRFRFTFPGCRALSPWRV RVQRRRCEMSTMFADTLLIVFISVCTAL LAEGITWVLVYRTDKYKRLKAEVEKQSK KLEKKKETITESAGRQQKKKIERQEEKL KNNNRDLSMVRMKSMFAIGFCFTALMGM |
| 12160 | 26061 | A | 12274 | 354 | 439 | VKTGECSIAKTWNQPKCPTTIDWIKKMW |
| 12161 | 26062 | A | 12275 | 366 | 499 | TRAQYFVVVVGIGSQCVTLECSGMIMAH CSLDLLGSSDPPTSAS |
| 12162 | 26063 | A | 12276 | 136 | 37 | KFPGQVHWLKPVIPALWEVKAGGSPEVR SSRPA |
| 12163 | 26064 | A | 12277 | 419 | 48 | DGKLNVSFLTVSSSGCFLIFLLIVRPPY FLRYNNSEIRPINNPTMTCKCSSKRKSR ICLTFNQKLEIIKLSEEGMSKIKTGQNL GILCHVSQVVDEQHKFVKATKSATAKIN LSISKYIMSGA |
| 12164 | 26065 | A | 12278 | 190 | 1 | RKGVFSPQMGPGLGKGKSPFLAKLNFPF KKTFFFFFETGSCFVAQAGMQWLDPSSP DAWADAW |
| 12165 | 26066 | A | 12279 | 276 | 389 | WFNLSFFCFCFLFFETESCSVARLECSG AISAHCNLT |
| 12166 | 26067 | A | 12280 | 425 | 1 | PPHPPEGKPPPPPRPELFFPKTKNKKER VLFFSPPPKKNFFSLTTPRFFFSPPQKK KKKLNPPPQKGPPPPVPIKPPPPLFFFF FFFFFFFFFFFFFFFFFFFFFFFFFFFFF |
| 12167 | 26068 | A | 12281 | 253 | 90 | IWPPQGSFKTAAPFFFFFVFLVEMGFCH VVQAGVKLLTSSSPPASASQTAEKLF |
| 12168 | 26069 | A | 12282 | 61 | 387 | PKSSSSAPFQISSWFSLPASTSASTMSI RVTQQPYKVFNSGPWAFSSSSYMSRPSA HISSLIVSRVGSSSTSFQGGLGAGMGLP |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predicted end nucleotide location corresponding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|--|--|
| 12169 | 26070 | A | 12283 | 186 | 305 | LHSSLANRARLSQKKKKRGGRSKEP LHHSTVQVREEEHKSLHTQVHTHTHTHT HPHLVIMSSHS |
| 12170 | 26071 | A | 12284 | 2 | 190 | PRVRFDRVNNRSLNPLISRTMRIEPIPE NPKFSVKKKKKKKKKKKKKKKKKKKK KKKKKKKKGGGA |
| 12171 | 26072 | A | 12285 | 17 | 197 | SLGVGGGQGGGVHFHPCKPFIVLSPVS LSKHCSYLPKKKKKKKKKKKKKKKKKKK KKKKKKKKKK |
| 12172 | 26073 | A | 12286 | 158 | 405 | GVASYAEQRKYFLEMEYFPGGEAISIVE MTTEDLHYSINLDDKAFTGFERVYSHFE RTCTDDKMLSYCITCYREIFCERNKL |
| 12173 | 26074 | A | 12287 | 364 | 142 | GCAFFLGGPLKERRKRRAVPPLFFFNFF FETESCSVTQAGVQWCNLGSLQPLLIDW WGQPGTVAHACHPGTLGG |
| 12174 | 26075 | A | 12288 | 171 | 380 | VFEAGHAWLQENLTSPDFWGFSFFPTDT GMLEKKKKKKKKKKKKKKKKKKKDR |
| 12175 | 26076 | A | 12289 | 194 | 2 | GPRGFWQFWVTKGFFPKKGFVKFYPPAG GWFFFFPKRGFPFPSFLFFFDRVWLCHP GWISVARS |
| 12176 | 26077 | A | 12290 | 179 | 416 | LIFLFTFACAVCFQLARFHFKIHIETAL RCLIILSCPFTHPLYKMYREGQARWLTP VIPALWEAEVGGSPEVRSLRPAC |
| 12177 | 26078 | A | 12291 | 3 | 408 | LAYGFHDRTTYDTPSALMMVLLVDELIT GNKNGSGEAPEYLPEDFRDGEDDAAVTL EKQEDLTTLVTLPVTLGEHQRQRETQLE AKLLKKRLELGSLLDLVEDLELIIQLKK KKKKKSPLWGAPFKGPLGAPI |
| 12178 | 26079 | A | 12292 | 119 | 278 | PKSIEAGVKSVLDHPLPNKAKTHLSCKK LKKKKKKKKKKKKKKKKKKKKKKKK KKKK KKK |
| 12179 | 26080 | A | 12293 | 119 | 3 | MLFTGFHTKVMSLNSITGWAWWFTPVIP ALWEAEVGKS |
| 12180 | 26081 | A | 12294 | 205 | 1 | ILHFYSTETKQPKGLFLALFYSDCEQEK RKGGKLKKIFKKAQGQARWLTPVIPAFW EAKVGRSPEVGS |
| 12181 | 26082 | A | 12295 | 215 | 1 | AFKIKLTMHIFSSPLCIPQDEFHPFIEA LLPHVRAIAYTWFNLQARKRKYFKKHEK RMSKEFHGARLEGNQ |
| 12182 | 26083 | A | 12296 | 185 | 411 | DVPLMFHWLHLHSDFRIISTEIGVETVG KRVLHIRILLLLLLLFFEMESCSVTHAG VQWCDLGSLQAPPPGFTPF |
| 12183 | 26084 | A | 12297 | 281 | 388 | RILFFFFFETKFCSVPQAGVQGRDLNSL QPPPPGFM |
| 12184 | 26085 | A | 12298 | 178 | 3 | TLLSVTQVPILPGSASSPLLFSRKDIKI PTSVFFSFQTEPRSVTQAGVSWCDLGSL QP |
| 12185 | 26086 | A | 12299 | 199 | 450 | TLIRHMICNYFLLSHRSPFSSVDYFLCY REIYSLIKTLNKLGIGGFFLNIIKVMYD KPAASIIRSSEKQKAFPLRSGTRIRCPL |
| 12186 | 26087 | A | 12300 | 3 | 407 | EFKDHSTAMDTEPNPGTSSVSTTTSSTT TTTITTSSSRMQQPQISVYSGSDRHAVQ VIQQALHRPPSSAAQYLQQMYAAQQQHL MLHTAALQQQHLSSSQLQSLAAVQASLS SGRPSTSPTGSVTQQSSMVQTSI |
| 12187 | 26088 | A | 12301 | 227 | 3 | KRGTEGQTLFFPAPRARKSFPPPKMPKK VEKEFPKGFFFFFFFETESAPSPRLECS GAISAHCSLNPHASAHAS |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|---|--|
| 12188 | 26089 | A | 12302 | 292 | 380 | KCYRWARWLMPVIPALWEAKAGGSLEPR N |
| 12189 | 26090 | A | 12303 | 13 | 186 | VDERHIRLSEMAWVALYLLSILWATAGT STQTQSSCCEYDVFPRRSGKQLPWGRGC DL |
| 12190 | 26091 | A | 12304 | 253 | 409 | ITAVIAAAAAVVGVTIIMTNFRSLPRLE CNGAISAHRNLLLLGSSDSPASAS |
| 12191 | 26092 | A | 12305 | 153 | 64 | GRAQWLMPIIPALWEAKAGGPLDVRSSR PA |
| 12192 | 26093 | А | 12306 | 265 | 420 | GTLMSRNTKLQLCRMNKSRTLGQPWWLT PVIPTLWEAKAGGSLEARCSRPAW |
| 12193 | 26094 | A | 12307 | 295 | 1 | RPCLKNKKTSPHWKKKFANPLFGKAPVF PLDKKPFKPHYRESPRPLKKKNGPKGFF FFFFETESCSVTQAEVQWRDLGSLQAPP PGSYHSPSKLIIKN |
| 12194 | 26095 | A | 12308 | 247 | 421 | SWCCLKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK |
| 12195 | 26096 | A | 12309 | 168 | 3 | GQALLLLCLTVAFSKTTVVCHAPILGWA WWLTPVIPALWEAEVGRSPEVRRSRP |
| 12196 | 26097 | A | 12310 | 117 | 3 | VAYNIAVFRGGVSLLLPRLECSGVISAH CNLRLPCSS |
| 12197 | 26098 | A | 12311 | 256 | 101 | EPPTPFFFFETGSCSITQAGAQRRDHSP PQSPTPGLSNTPAPASRACESGR |
| 12198 | 26099 | A | 12312 | 146 | 3 | FVALCIQLFPLVNVICFHKKHKTGRARW LMPVIPALWEAKAGGSPEV |
| 12199 | 26100 | A | 12313 | 207 | 3 | VRVRTTGVIMALRGLCFSVEESMTKDEL IARLRSLGEQLNRDVSLTGTKEELALRV AELKQELDDSR |
| 12200 | 26101 | A | 12314 | 282 | 2 | NCLAEKVKFMVSAISLQPQGISILFLSF FFEKESCSVPQARVQWPNFSSLQSPPPG FKLFFCLSPGGGGCSEPKSCRCIPGWQQ NETPSQKKK |
| 12201 | 26102 | A | 12315 | 298 | 84 | KTPQPPVFALSKNFGPPKTAPIFFFFFF FETKSYSVAQAGVQWRDLGSLHSSLGHR ARLHLKKRKRKSINL |
| 12202 | 26103 | A | 12316 | 124 | 1 | SKGHFFFFFFSETESCSVAQAGVQWHNL GSLQVPPPRFTPF |
| 12203 | 26104 | A | 12317 | 132 | 398 | VVTNAVFSIVTFSPSVCHSEVALAAYKW LVCYLLRETYQKLNQEIKPPTLSVPKKK KKKKKKKKKKKKKKKKKKKKK |
| 12204 | 26105 | A | 12318 | 262 | 392 | PHYCQNQPQARRSGSHQHFGKQRREDHL SLGVRDQPGQYSETP |
| 12205 | 26106 | A | 12319 | 168 | 3 | EAPKAISNCTTALQPRLQGKNLSQNKEG QVQCLTPVIPALWEAKVGGSPEVRSS |
| 12206 | 26107 | A | 12320 | 48 | 385 | DLGLSGHSTLASSFISLLLLSYKKCLSP STMIMRLPLPCGSPIKPPFLPKKKKKKK KKKKKKKKKKKKKKTGG |
| 12207 | 26108 | A | 12321 | 218 | 83 | NLSPIFPEGNFFFFFFEMESRSVAQATV QWRDLGSLQAPPPRRKF |
| 12208 | 26109 | A | 12322 | 197 | 1 | KETWPFPPKKEQGLFSFFKKRIFFFFSK KIPSPPFFFFFFFETESCSVAQAGVQWH DLGSLQAPP |
| 12209 | 26110 | A | 12323 | 128 | 36 | KGLFFFFEMGVSLLPRLECSGTTSAHCN LP |
| 12210 | 26111 | A | 12324 | 140 | 3 | ILNSNLKPIKKNTFFFETESRSIAQAGV QWHDPSSKQPPPLGFKR |
| 12211 | 26112 | A | 12325 | 273 | 369 | RKEWFLKKKKKKKKKKKKKKKKKKKKK |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|---|--|
| 10010 | 06112 | A | 10006 | 140 | 415 | KKK RTGLLGPGRLQGPPYGSREYKGSGLLDL |
| 12212 | 26113 | A | 12326 | | | NASLLDPEVWAPSLSGPETKPPAHSPSD PGVHSSCSASQGSQGPGPLTPSSRIHEP KPPGPFFK |
| 12213 | 26114 | A | 12327 | 2 | 506 | FVPLSETEAPGCSGSRPPELEPERSLGR FRGRFEDKDEQLEEEEELEEEEEED MSHFSLRLEGGRQDSEDEEERLINLSEL TPYILCSICKGYLIDATTITECLHTFCK SCIVRHFYYSNRCPKCNIVVHQTQPLYN IRLDRQLQDIVYKLVINLEEREKKQMHD |
| 12214 | 26115 | A | 12328 | 1 | 419 | FRVPSCARCQYLPLLRGASQLGYSGVRD PVEEAVCPFSDLKLCAGRTTTLFKAVRQ GHLSLQRFLLPFVWLCPAPRSGVYRGRQ ASLSCGGLHPVGASWPRCLPTQASAMAG TPPPASLPPCSLISDCCASNERGSMGV |
| 12215 | 26116 | A | 12329 | 259 | 414 | NMENSLRCVWVPKLAFVLFGASLLSAHL QVTGFQIKAFTALRFLSEPSDAVT |
| 12216 | 26117 | A | 12330 | 302 | 404 | SCYRVSVISQARWLTPVIPALWEAEVGR IPEVGS |
| 12217 | 26118 | A | 12331 | 94 | 375 | SRDMSPGLLTTRKEALMAFRDVAVAFTQ KEWKLLSSAQRTLYREVMLENYSHLVSL GIAFSKPKLIEQLEQGDEPWREENEHLL DLCPGWSAMA |
| 12218 | 26119 | A | 12332 | 7 | 246 | NPIVDPSPCGGIRVRTPAGRGGPALRVR PETWEEAGEKMPSESLCLAAQARLDSKW LKTDIQNCFITRKISLLPLFCHHL |
| 12219 | 26120 | A | 12333 | 150 | 1 | YIYFFHLVRGLPGSGYDEYFVVVVVNTE SPSVTQAGVQWCHVVSVQHKPP |
| 12220 | 26121 | A | 12334 | 34 | 426 | EPGFLFVFFFLIRGKKTPLFFWGTRKNP KSGKPLFTPPGKSPSEPPKSRGGPLFFQ TRSRLTPQSWFGGAPKPPLGGEPPKFWE AGLGGDPPTPRAPHRADQTLEQPIQAPT RIIQNEQWAIKPFQPMPGG |
| 12221 | 26122 | A | 12335 | 185 | 3 | TVITPLHFSLGHRARLWSRVPAPPAENR SMEGGLGRAVCLLTGASRGFGRTLAPLL ASHE |
| 12222 | 26123 | A | 12336 | 60 | 316 | GWGPIPSTDVTVLSPQKPILLQGHERAI TQIKYNREGDLLFTVAKDPVSVGWRGSG RGGILLPGRWVDTPVLPLAGNQRASHCE K |
| 12223 | 26124 | A | 12337 | 3 | 167 | SFRIQVQGNHTSKHYPKIQYSDQAQWLT SVIPALWEAKTGRSLEVRSLRAFRAP |
| 12224 | 26125 | A | 12338 | 238 | 401 | RPLSVMCGRLTSIRVEDSGARCWFYLFI YETEFRSVAQAGVRRRDLGSLQTPPSG |
| 12225 | 26126 | A | 12339 | 354 | 433 | GWAQWFMPVIPALWEAKAGVSPEVRS |
| 12226 | 26127 | A | 12340 | 238 | 382 | LIIVYNMMLLPDAVAFTCNSSTLGGQGR RITRGQEFETSLANMVKPHL |
| 12227 | 26128 | A | 12341 | 101 | 1 | KTKQTNKKTRSVGQTWWFTPIIPAYWEA QAGEL |
| 12228 | 26129 | A | 12342 | 276 | 23 | GSCLLEGKLTNRKDIHTKTPSVRHHCQR PKIDKTTKMGRNQSRKAENSKNQSSSSP SKECSSLAATEQSWMPHDFDELREEGFR |
| 12229 | 26130 | A | 12343 | 122 | 1 | YMGVNERGCGQSIFKSSLSSQLWWWAPI IPATQEAEAGEW |
| 12230 | 26131 | A | 12344 | 180 | 360 | LHVVYFFSVGDFLPPPPPPLDDSSALPS ISGNFPPPPPLDEEAFKVQVRAEVKVML GKS |

| | | | | | | (4.41. |
|------------|----------|-----|------------------|-------------------------|------------------|--|
| SEQ ID | SEQ ID | M | SEQ ID | Predicted | Predict- | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, |
| NO: of | NO: of | eth | NO: in | beginning nucleotide | ed end nucle- | E=Glutamic Acid, F=Phenylalanine, |
| nucleotide | peptide | od | USSN 09/515,1 | location | otide | G=Glycine, H=Histidine, I=Isoleucine, |
| sequence | sequence | | 26 | correspond | location | K=Lysine, L=Leucine, M=Methionine, |
| | | | 20 | ing to first | correspon | N=Asparagine, P=Proline, |
| | | | | amino acid | ding to | Q=Glutamine, R=Arginine, S=Serine, |
| | 1 | | | residue of | last amino | T=Threonine, V=Valine, |
| | | | | peptide | acid | W=Tryptophan, Y=Tyrosine, |
| | | | | sequence | residue of | X=Unknown, *=Stop codon, /=possible |
| | 1 | | | 1 * | peptide | nucleotide deletion, \=possible |
| | | - | | | sequence | nucleotide insertion |
| 12231 | 26132 | A | 12345 | 35 | 411 | TMTIVDKASESSDPSAYQNQPGSSEAVS |
| | | 1 | | | | PGDMDAGSASWGAVSSLNDVSNHTLSLG |
| | | 1 | | | | PVPGAVVYSSSSVPDKSKPSPQKDQALG |
| | | 1 |) | | | DGIAPPQKVLFPSEKICLKWQQTHRVGA |
| <u></u> | | | | | 1006 | GLQNLGNTCFANA IIYCYKQTIIGQARWLTTLIPSLWEAKV |
| 12232 | 26133 | A | 12346 | 278 | 386 | GGSPEVRS |
| 12000 | 06124 | 70 | 12347 | 111 | 2 | KSQTGQVQWLTPVIPALWEAEVGGLLEL |
| 12233 | 26134 | A | 1234/ | 111 | 4 | RSSRLAWA |
| 10024 | 26135 | A | 12348 | 215 | 316 | LNKRLMISFIKKKKKKKKKKKKKKKKKKK |
| 12234 | 20133 | \ ^ | 12346 | 213 | 310 | KKKKKKKGGPL |
| 12235 | 26136 | A | 12349 | 265 | 404 | SNISYFLNNNFSKALSLNIKYMISQARW |
| 12233 | 20150 | | 1234) | -00 | | LTPVIPALWEAKVGGLPE |
| 12236 | 26137 | A | 12350 | 372 | 1 | PVFPLPPKKLGEQLPPPALRFLAVSPLP |
| 12230 | 2015, | | | | Ì | KAAHEQEIKEKVLAVHKNPIDPVYGFPK |
| <u> </u> | | 1 | | | | KGPTNFFLFPLFQRVIFLGAQKGVSWFG |
| | Ì | | | | | FYVKGLSLAPKLGGPPFFFFFETESRSV |
| | | | | | | AQDGVQWCDLGS |
| 12237 | 26138 | A | 12351 | 318 | 416 | QGRAQWLTPVILTLWEAKAGGSSEVRSS |
| | | | <u> </u> | | | RPAPP NGYAIVECVVLFCFVLFLRQSLSVAQAG |
| 12238 | 26139 | A | 12352 | 144 | 1 | VOWCNLGSMQPPSTSLVQAI |
| | | | 10252 | 116 | 1 | SGRYSFKKMKCGQERWLASVIPALWEAE |
| 12239 | 26140 | A | 12353 | 116 | 1 | VGRSPEVRSL |
| 12240 | 26141 | A | 12354 | 102 | 2 | ETRYKKQPGGWERWLTPIIPVLWEAEVG |
| 12240 | 20141 | | 1233 | 102 | - | GSPEV |
| 12241 | 26142 | A | 12355 | 112 | 294 | LISPSCPMWPSPHGPTWLSRLISQHSPS |
| 1 | | l | | | | NPKKKKKKKKKKKKKKKKKKKKKKK |
| | | _ | | | | KKKKKKRGGGAF |
| 12242 | 26143 | A | 12356 | 138 | 2 | SFFLKVFFFFFFEMESRSVAQAGVQWCN |
| | | | | 1 | 204 | LGSPQAPPPGSRHCPVD PGEPPGEKGEGGKGKKPGGRGWGEPPCR |
| 12243 | 26144 | A | 12357 | 148 | 394 | GGFKEKFPRGKEKAPPLKENSRENLGWG |
| | 1 | 1 | 1 | | | TKIPPLGKKKPPPPQEQEMILGPPQF |
| 12244 | 26145 | A | 12358 | 97 | 3 | EKFSPCFVRARTHTHTHTHTHTLSLSLF |
| 12244 | 20143 | | 12338 | " | ' | GFH |
| 12245 | 26146 | A | 12359 | 204 | 2 | KHYTPAACFAPCLPDEAPIIAAAKPATT |
| 12243 | 20110 | | 12005 | | | TSEQKMAVPPKYANLGKSARNVFNKGYG |
| | | į. | | · (| | YGLINLLKTKS |
| 12246 | 26147 | A | 12360 | 156 | 391 | NRGLFKVEESFSIPCSVRCSIHPSALVS |
| | 1 | | 1 | | 1 | PTPPTTDTTNWALFFETESCSIHQTGMR |
| | | | | | | WRDLNLLQPLPPGFKRFSCLNL ALKKLLIIDDNSHKTNIVKHFSFRNFTF |
| 12247 | 26148 | A | 12361 | 179 | 1 | LFLLETESRSIARLECSDANPTHCNLRL |
| | - [| | | | | SGP |
| 10040 | 26140 | A | 12362 | 218 | 391 | TILKDCTFKMICLSQAQWHIPVVPATWE |
| 12248 | 26149 | ^ | 12302 | 210 | 371 | AESRGLLEPTS |
| 12249 | 26150 | - | 12363 | 12 | 356 | TNSHVDNSITQKPEFCIPRCCGYIVCQL |
| 12243 | 20130 | 1 | 12303 | 1 - | 1 | QLVERAFIFNFFFFFLKRSFVLLPRLEG |
| | | | | | | RGAIFRVTQEGSNLLTLGPAPLGLPKGW |
| } | | - { | | | 1 | NYRGDHPGPAYFYFLMGKRLLQIQGGRG |
| 1 | | { | <u> </u> | | | LKRNLL |
| 12250 | 26151 | A | 12364 | 94 | 1 | KNPPLFFFFFFFESESCYVAQTAVQWHD |
| | | | 1 | | _ | LGL YSSLLFKPAESAKGILRHHVTPKSTSAI |
| 12251 | 26152 | A | 12365 | 237 | 2 | SKILFCFLFFVETEFLSPGLKCSGAIKV |
| | | 1 | | | - (| HCSLNLSGSSNSPTSASQVPGS |
| 12252 | 26153 | A | 12366 | 340 | 442 | GLFVCFFVWFLETESCSVTQAGVHWCDL |
| 12232 | 20155 | | 12300 | | 1 4.12 | |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last a mino acid residue of peptide | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|--|--|--|---|--|
| | | | | | sequence | SSLOPS |
| 12253 | 26154 | A | 12367 | 208 | 45 | EGGEFFFFFFSVFFFVRAGVLPCCPGWS ETPGSSDPPALASQSAGITGATVNST |
| 12254 | 26155 | A | 12368 | 60 | 443 | CSSCVSSKPQSPHLKKQGDRMGAHLISG GCTEATAGKGMRKCLVAWSTCAGARPPS RNRGSQGHSARFQGPRLPTVVRLPPPPP QAKPFCKKWMLGGPISIEPKPQHPPGPG KKKWAGKAAPRLVPT |
| 12255 | 26156 | A | 12370 | 341 | 421 | SGWVRWLTPVTPALWEAEAGGSPEVGR |
| 12256 | 26157 | A | 12371 | 280 | 393 | NTIDHYVTQWLTPVIRTLWEAEAGRSPE VRSSRSAWPT |
| 12257 | 26158 | A | 12372 | 268 | 399 | TLCSLSSAESIIHSYPEFSCKDNYLMTH NEAYKACMRRAFHIPL |
| 12258 | 26159 | A | 12373 | 209 | 468 | EAVPDETSHPSPADSFSTSSNLACGTHH LRRLLKLYVEEELEYYPRKIQCFHFSFF FFESRSLLLLPRLECSGSISAHCNLCLL GS |
| 12259 | 26160 | A | 12374 | 381 | 488 | TITCLFQKCQRGRARWLTPVIPALWEAE AGGSQGQE |
| 12260 | 26161 | A | 12375 | 276 | 395 | GHVVKTKKLKLIFVFFEMESCSVAQAGV QWHDLGSLQPPP |
| 12261 | 26162 | A | 12376 | 295 | 472 | VYSSVALNTFTLLCNHHHQPSPEVLTFP NKKCRGAILAHCNLHLLGSSDSPTSASR VAG |
| 12262 | 26163 | A | 12377 | 390 | 511 | PGAVAHACNPSTLGGRGGQITRIPSL |
| 12263 | 26164 | A | 12378 | 417 | 511 | AHRSFFEMESCSVTQAGVQWRRLGSLQP SPP |
| 12264 | 26165 | A | 12379 | 133 | 406 | KLSLNKRDYKKQVCKETKKKKKKKKKK KKKKKPGAQKKKSGGSPR |
| 12265 | 26166 | A | 12380 | 247 | 345 | HMWSSQLNKGLINKKKKKKKKKKKKKKK KKKKKKKG |
| 12266 | 26167 | A | 12381 | 156 | 15 | NFFFFETESCSSVTQTRVQWFDLGSLQP GKQEQNYVSKNKQKELIH |
| 12267 | 26168 | A | 12382 | 275 | 1 | KIVFLKGPPLFFFFKKKFVFFLKVGFKG GLNFIKTFPPGGKPISKKRQIFFFFFFF ETEPHSVARLECSGTISPHCNLHLPSSN DSLASTS |
| 12268 | 26169 | A | 12383 | 43 | 379 | LLGYDESRSLSWICLCLSCLGQLLSFLN LLVYVFCQTCEVCFHYFFQYFSTLFLLT FWDSNVLNIRHFGIVPQVLDDLVFFSPN KEIFLGQLQWLMPVIPAFWEPEAGRSPE |
| 12269 | 26170 | A | 12384 | 303 | 1 | KGPFFFFGLSPFFFLKKVFFFPPFFLRT PPFFFFPPFFKNFFPPPPKKKNPFFFFP PPPFFFFFFFFFF |
| 12270 | 26171 | A | 12385 | 141 | 1 | KKEPLRAPPPFQLFCFFYFETTPCSVTQ ARVQWCNLSSLQPPPLRYK |
| 12271 | 26172 | . A | 12386 | 31 | 417 | CRLADSPSPNDTGQDSRGRAGIKHIPPL KKKKKKKKKKKKKKKKKKKKKKKKK KKKKKSGGGA |
| 12272 | 26173 | A | 12387 | 291 | 412 | LSSEMLLFCFVYFLRWSFTFVAQAGVQW CDLGLLQPPLPG |
| 12273 | 26174 | A | 12388 | 310 | 1 | MTPCPFLFFCPKKRKAGGGFIKKALFFN PQKEVFLGPPPKGPFFLGFQPTPPWGKK IPRLNPLFWRSSIFFFFLLDGVSRLLPR LECNGVISAHCNLRLLGSS |
| 12274 | 26175 | Α | 12389 | 117 | 2 | KRNPQRGGPLFFFFFFFETESRSVVQAG |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|---|--|
| 12275 | 26176 | A | 12390 | 117 | 319 | AQWHDLGSLQ SFLKKPKDSTKNLLKLINEFSKGSGPKI |
| | | | | | | TIQKSVAFIYPNGEHSEKKIREVITFTI AAKTIKCPPQA |
| 12276 | 26177 | A | 12391 | 95 | 2 | SKSWTSLKLRTLGWARWLTPVIPALWEA KAG |
| 12277 | 26178 | A | 12393 | 127 | 395 | TPGSQGFCLIKQSALHLLNKSSFSFLSF IETQSLSVTQAGVQWCYLSSLQPPPPRF KLRQKNRLNSGGRGCNKLRAHHYTPGWV TERDS |
| 12278 | 26179 | A | 12394 | 252 | 391 | FFCFCFVLLCFFEMESCSVAQAGLQWPG LGSLRQGFAMLARLVSSS |
| 12279 | 26180 | A | 12395 | 275 | 3 | TFRLVILKKSKETVEINCLETKSHSVAR AGVQWCSQDWWEEKAGFNWRPSKARRCP TSVLKCHLGWAQWLMPVIPALWEAKAGG SPEVRS |
| 12280 | 26181 | A | 12396 | 111 | 3 | GNNVKIRGLRIRPLKGWACWFTPVIPAF WEAEAGG |
| 12281 | 26182 | A | 12397 | 124 | 1 | VSRGRTVHQEKPTERAASPRLECNGTIS AHHNLCLPGSSNS |
| 12282 | 26183 | A | 12398 | 259 | 387 | YQQESFSCLFIFIFLFFIFYDTESRSVA QAGMQWHDLGSLKPP |
| 12283 | 26184 | A | 12399 | 103 | 1 | KGRFFFFFYETESRSVAQAGVQWRDLD SLQAPP |
| 12284 | 26185 | A | 12400 | 308 | 416 | CGNNFEKAGRVRWLTPVIPALWEAKAGG SLEVRSLR |
| 12285 | 26186 | A | 12401 | 92 | 1 | HTWGLTQWLMPVIPALQEAKVGKLFEPR SS |
| 12286 | 26187 | A | 12402 | 265 | 388 | GLSWLFRRPGHLFYFIFFETMSVSITQA GVGCCDLGSLQPP |
| 12287 | 26188 | A | 12403 | 279 | 1 | SLSSKMESGSLTFSTIDIWGWIITLSCC PGHCRMFSSIRGLYPLDASSTTSSSCNN QNSPDMGTCSLWSQLLRRLRWEDCLNTG GRGCSEPGS |
| 12288 | 26189 | A | 12404 | 387 | 152 | NPPPGFNFGGPLKKNFFSPPRGEKFVFL KRPPPFFFFFFFFFFETESHSVAQAGVHW RDLGSLQALKSFCDLVSAFKGF |
| 12289 | 26190 | A | 12405 | 262 | 464 | TIFHWLACTLVIHSSFDGHGLFLPLAVA DSAAVKHSCTSICLNIEYIPGNGIAGSC GISVLNFLRNC |
| 12290 | 26191 | A | 12406 | 204 | 67 | KCFGQAWWLMPVIPALWEAEAGRSQELR SSRPAWAKELLNNRTRAS |
| 12291 | 26192 | A | 12407 | 134 | 1 | IQRPCIQLFSTFFLILFYFIFTEIDSCS VAQAEVQWHDFGSLQP |
| 12292 | 26193 | A | 12408 | 145 | 403 | TYMYSLINYYKANSHVTKVNKHNTARFL ESLLCAHPNPPIKLIISLLLREKKKKK KKKKKKKKKKKKQK |
| 12293 | 26194 | A | 12409 | 65 | 415 | RNKRIISQSWNGPSRKPQSSALLCGLGH LTSGVRARVSPVQGCLVRIKGGSGPSKP KKKKKKKKKKKKKKKKKKSSKKKKAQKGG ALKKK |
| 12294 | 26195 | A | 12410 | 124 | 404 | PWWEFLHHRNCQMWPGTVAHTCNPGTLG KKKKKKKKKKKKKKKKKKKSSSSS |
| 12295 | 26196 | A | 12411 | 164 | 2 | TGAGLTIMDMVGVGPDLLQLRFCFVLFC FLVFFFETESDSVAQAGVQWCNPSSL |
| 12296 | 26197 | A | 12412 | 114 | 3 | PGMVAHACNPSTLGGQGGWITRGQVYKT GLAKTVKP |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|---|--|
| 12297 | 26198 | A | 12413 | 583 | 391 | LADTGFHHVGQADLKPLTSCSTRLSLPK CWDYRCEPPHLAVPDTVLSTRGLISEKS FLPLCTFR |
| 12298 | 26199 | A | 12414 | 280 | 2 | KVSSMNAQTSVLFSTMLGISETLKYRGR KKRRERGREGGREGRERKDECRKVRSER IEGGKKRGRKEYREEGRRRIEVSANEET PRDHPANK |
| 12299 | 26200 | A | 12415 | 264 | 352 | RFLVHGCDIYICINIYTHTHTHTHSHTH T |
| 12300 | 26201 | A | 12416 | 359 | 485 | TDARMDWCYQEGTGSQAWWLTPVIPAFW EAEAGGSFEVRSLR |
| 12301 | 26202 | A | 12417 | 171 | 1 | PLFRWWGFELFPPFGYQKKKGYPPFFFF ETEPCCVTQAGMQWYDLRSLQPPPPEFK R |
| 12302 | 26203 | A | 12418 | 265 | 1 | WHKSNEELAAEASAPVKARASNTILGPH THGKERCPVSLRNVLDEGVKSTNFFSFF ETDSHSVTQAECSGAISAHCNLHLMGSR DSGA |
| 12303 | 26204 | A | 12419 | 278 | 388 | SSLTGFFIRRRNEEPGQHGETPCLLKIQ KLAGCGGVL |
| 12304 | 26205 | A | 12420 | 205 | 413 | WNLFVYLYQTHKYARVYSYNIILFTNKK RAIGQAEWFTPIIPAVWEAKVSRLPEVR SVRLSLPKWRITS |
| 12305 | 26206 | A | 12421 | 103 | 2 | RSLSKHRTETILGLPAAVLIILFPPLLI PTSKY |
| 12306 | 26207 | A | 12422 | 372 | 478 | NIFVFLKETPCQSQWLMSVIPTLWEAEA GGSLEPR |
| 12307 | 26208 | A | 12423 | 174 | 416 | KMHYCVLSAFLILHLDTVALILSTCSTL DMDQFMRKRIEAIRGQILSKLKLTSPPK NYSEPEEVPPEVISIYNSTRDLLQE |
| 12308 | 26209 | A | 12424 | 572 | 733 | RFSCLSLPGSWDYKNCLNSGSRGYSEPR SHHCIPAWVTEQDSVSKQNKTKQSA |
| 12309 | 26210 | A | 12425 | 123 | 2 | GYIFIFIYFFETGSCSVAQAGVQWRNLG SLQLPPPSSSDS |
| 12310 | 26211 | A | 12426 | 224 | 417 | TADFYGVNYISIKLLPKKKKKRGGPFKE SKFTAAGLQKNIFFLSAPNFIALAVVLK RRDWETPG |
| 12311 | 26212 | A | 12427 | 115 | 3 | FFETGSHPVTQTGMQWCDCNSLQPLTNR LKQSSHLSL |
| 12312 | 26213 | A | 12428 | 250 | 398 | PWAGHLTSLGLSLPIFNIGIAGQACWLM PVIPALWEAEAGRSLEVRSSK |
| 12313 | 26214 | A | 12429 | 215 | 3 | KKGLVVWGANKLWVFTPQKFFLNQFSGW ALTPRGKSWFSKRRAPAPFFFFFFWETE SHSVAEAGMQWHDL |
| 12314 | 26215 | A | 12430 | 345 | 2 | FSHHPAKPQGGLFYRQPLGLEGKETRPR LNDRFMAGPSFPAQQGLRMPFLGKEWER EGCSFVQCPVEGFAMWPYPLGSPPGPRL FFFFFEAGSPSVTQAECSGSITANCSL EL |
| 12315 | 26216 | A | 12431 | 348 | 3 | LYSSLGDRVKLRLEKTKTNKWCLHSYIS TCKIINLDHYLIPCTKTNSEWIKYLNVR TNSIKLLEEDISVNLHELGSDNSFLAMT PKABIIKEKIYKLHFIKIKIFHVSEDII EK |
| 12316 | 26217 | Α | 12432 | 160 | 52 | NTAIGHPHQAIYLSYLSIIYLSIYLSIY LSIYLSIYL |
| 12317 | 26218 | A | 12433 | 180 | 2 | GRSKLHICREHSICAIEHVCGCDTENNT NLCQVQWLMPVILAIWEAEAWRSPEVRS |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|---|--|
| 10010 | 26212 | | 10.40.4 | 100 | | LRA PGAENPPPKGGPPFFFPFPRGFPPGVFF |
| 12318 | 26219 | A | 12434 | 193 | 3 | LKKKGFPFFFFFFFFTTESRSVAQAGVQW HDLGSLQ |
| 12319 | 26220 | A | 12435 | 321 | 422 | NVEGDFLQRIKNIRYWPGAVAHTCGPST LGGRGG |
| 12320 | 26221 | A | 12436 | 116 | 2 | HDRFCLFVYDRVSTLSPRLECSSAISAH CNLRLPGSSN |
| 12321 | 26222 | A | 12437 | 302 | 400 | THTHTHTHTHTHTHSGLLYYLPKGKQSH EFCW |
| 12322 | 26223 | A | 12438 | 329 | 399 | LALQARLECNGIISAHCSLCLPY |
| 12323 | 26224 | A | 12439 | 310 | 2 | KPILSRGLFCARPCFRRSNMRSFNPSQS YQVGKDTFGFTVKVTKLKVLGPSRGPKG ARQGVHKGKCLLTLPKMLRFLFFFETES CSVTRLECSGAILAHCNL |
| 12324 | 26225 | A | 12440 | 151 | 401 | EGMPHLPGSHSSSNILKRGRESGREAGR KGRKERRKEGRRERRKEEEKRGRGKIRR RKDRGENEEEENNRLSSKVSLEISTCP |
| 12325 | 26226 | A | 12441 | 276 | 1 | FHPFGRPSVSPRVQPKIGIIIHTCVARI EKGGSCKALSLCPQYVGSNFFFFFETRS FSVAQAGVQRCDLGSMQPPHFPGSSDPP APASRVAG |
| 12326 | 26227 | A | 12442 | 140 | 1 | NSHFPKNLGSPSSFFFFFYLETESRSVA QAGVQWLDLRSLQPPPPG |
| 12327 | 26228 | A | 12443 | 310 | 3 | LPPCSWGLYGAFARCPLMDDKQLSQVPL WACPLSTAGRTRLCVACIKAAGKAQGFF FFFETESHSVTQAGVQWHDLGSLQPPTH AKPKHTHTHTQTHTIPDT |
| 12328 | 26229 | A | 12444 | 337 | 2 | GFFAIVPKKGQKKMFSPFPKEGIFSGPC FISSTPTLLGVKKILPPNTSEIRPVLSS IINTSVHIREQKKTTYVGIFTGKSRFFF FETDSRSIAQVGVRWRHLGSLQAPPPG |
| 12329 | 26230 | A | 12445 | 112 | 9 | GRVRWLTPAIPALWEAKAGRSPEVRNSR PAWPTR |
| 12330 | 26231 | A | 12446 | 172 | 3 | IPGELLIGRAKFKAKNWPWAPRGIPLGR QKFSFFFFFETESRSVAQAGMQWLNLGS |
| 12331 | 26232 | A | 12447 | 221 | 418 | RKAERLEVFFRRLCQRALRPFPHCLAAA PMPLIVLKKPILGRAWWLTPVIPALWEA EAGGWLESRS |
| 12332 | 26233 | A | 12448 | 280 | 392 | PLGRVRWLTTVIPAHWEALAGGSPEFRN LRPAWPDMA |
| 12333 | 26234 | A | 12449 | 410 | 129 | PSQEIFPYPGPPGKTPFPLKKKKKNRGG GGGLPFPPPQKVKKKKFFYPGRGRFKQP KFNPLPPPRGEKKNPKPPPPKKKKKKEK KRKEKKLVT |
| 12334 | 26235 | A | 12450 | 159 | 1 | KKKRGGFLGLTFIKKTGPDPFFFFFETE SRSVAQAGVQWYDLGSLQAPPPGLM |
| 12335 | 26236 | A | 12451 | 270 | 1 | NPLKFFFFSLFQNPLKKDPAIFNPFFFF FPRIFWPFFGGVSKAGIWFFFFPFFFFF FFFFFETESRSVAQAGVQWRDLGSLRT RGRTRG |
| 12336 | 26237 | A | 12452 | 249 | 33 | DKLVKLPLILKKLNSFFFFFETESRSVA QTGVQWRNLGSLHPPPPGFKPNAWAYAW AHAWVVPGLPAQNLR |
| 12337 | 26238 | A | 12453 | 190 | 86 | TNDLGWTQWLTPVIPALWDAEAGRSLEL RSTRKA |
| 12338 | 26239 | A | 12454 | 318 | 2 | PPTFPLKTLFFPVFLPKLFSTLFSPKKK FSNFLVSAPPFFFLTLGNSQGVLLKGGP |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|---|--|
| | | | | - | 1 | FFFFFFFFETESRCVSQVGVQWRDLEKK EKKKCNSNGGRHYISTHLKYK |
| 12339 | 26240 | A | 12455 | 204 | 288 | IQLNTHTHTHTHTHTHTHTHTHTETGKMW |
| 12340 | 26241 | A | 12456 | 409 | 13 | QGGAPPIFIMLSFLQEAGLLHVAQPGVK LLTSGDPPSPPSKSAWRQRQETRLNLGG RGRSEQRPPPRPPAWATQQDSVSKTNKQ TKNNKKIRKSLCKKTLEKEMLAVMIITK YLLCTDVPSTVLCTHLYYLT |
| 12341 | 26242 | A | 12457 | 204 | 3 | KKKSPTPQSAKFPLGGGVFFFFLVGMRS PFVAQAGFKPLGSSDPPILASQSTAITG MNHHTSSAFH |
| 12342 | 26243 | A | 12458 | 289 | 3 | KAREKKKVGATKNIRIVDLSKGRTSLCK KTEMPPVGNRNKQKPQNPSNLRISTRPE TESRSVTRLECSGAISAQVILPGSSDSP ASNWRQSETLS |
| 12343 | 26244 | A | 12459 | 261 | 388 | SWHFGRSKQVYCLSLGVRNQPGQNPVST KTTKISQAWWHAPW |
| 12344 | 26245 | A | 12460 | 313 | 391 | RVGRVHWLKPVIPALWEAVAGGSPEV |
| 12345 | 26246 | A | 12461 | 112 | 7 | HICIYFFETESRSVAQAGVQWHDLSSLQ PPPAGFK |
| 12346 | 26247 | A | 12462 | 389 | 3 | ALHEGAARGSPPPGGKKKKRGSPFPMGN QAPQVPGKLGGGFGFWFFKKSLPLQPGG KPGVFYKPKKVPTPKDPPPPTLWGGWGT TGGPPGPLFFFFFFFETESRSVTQAGVQ WRHLGPLQPQPPAHAS |
| 12347 | 26248 | A | 12463 | 26 | 349 | CIMIDSTTGIFIHCWWECEMAHPFWKAV WQFLFFFFKRGVYFFFPGGIKGPGFGLR EPLPPGIKGVPRPNPLGGGDLRPPPPPPP INLGFFKGKGVFMVWPGVGNFLI |
| 12348 | 26249 | A | 12465 | 187 | 54 | GYKNKPGQAQWLTPVIPALWEAKAGGSP EVRSSRPAWPIWRTRG |
| 12349 | 26250 | A | 12466 | 199 | 55 | IIQLRQQNSFLFICFDIESCSVAQAGVQ WHNLSSLQLEVPGFKHAPSH |
| 12350 | 26251 | Ā | 12467 | 107 | 3 | FAHCLIGNSFFSFFFFFFEVGSCSVAQA GVQWSD |
| 12351 | 26252 | A | 12468 | 120 | 1 | GNWCRAQWLTLVIPALWEAEVGRSPEVG SSTRLGLPTHRP |
| 12352 | 26253 | A | 12469 | 105 | 2 | YYLYFIFFLFFLETGSCSVTQAGVQWKD LRSVTS |
| 12353 | 26254 | A | 12470 | 238 | 405 | FHICLFILKNQVSKMYTHTVSCSLLEII YCCLLQWLTPVIPALWETKVGGSLEVRS |
| 12354 | 26255 | A | 12471 | 425 | 1 | LNPAPAIFFGGPKKKNFFSPPRGDKFFF FKRAPPFFFFFFFFFFFFQKKKKPFFPA QKKGRGFPGRALSQWPLAGFLKITQFPP WSRVPFSPLLFFFFDMESPSVAQAGVLW HDLLHLPGSSDPPTPASRVAGITGVCHH A |
| 12355 | 26256 | A | 12472 | 122 | 2 | QNKYSELRMNTFGRPQWFTPVIPALWEA EAGGSPEVRSSR |
| 12356 | 26257 | A | 12473 | 144 | 420 | GAPRPISRPRGKTPGGGGKRGKPNKNGL GENPFFPKGVKGKNPPIFFPFLGQNGPT PLVLGSANMGFYLYLKRKGPGKGREALR AEPGQPFY |
| 12357 | 26258 | Α | 12474 | 80 | 1 | KGGQVQWLTPVIPAFWEAEAGGSPEV |
| 12358 | 26259 | A | 12475 | 54 | 294 | LIKSWQHRQEYVSLMSFIFFPCHIWYQS QRSPGTTQIILEISDTGKNKYFNCTGSH RKHTHTHTHTHTHTHAHTHTL |

| SEQ ID NO: of | SEQ ID NO: of | M | SEQ ID NO: in | Predicted beginning | Predict- ed end | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, |
|------------------|------------------|----------|------------------|------------------------|--------------------|--|
| nucleotide | peptide | od | USSN | nucleotide | nucle- | E=Glutamic Acid, F=Phenylalanine, |
| sequence | sequence | | 09/515,1 | location | otide | G=Glycine, H=Histidine, I=Isoleucine, |
| J | | | 26 | correspond | location | K=Lysine, L=Leucine, M=Methionine, |
| 1 | | | | ing to first | correspon | N=Asparagine, P=Proline, |
| | | | | amino acid | ding to | Q=Glutamine, R=Arginine, S=Serine, |
| 1 | | - | | residue of | last amino | T=Threonine, V=Valine, |
| | | | | peptide sequence | acid residue of | W=Tryptophan, Y=Tyrosine, |
| | | | | sequence | peptide | X=Unknown, *=Stop codon, /=possible |
| | | | | | sequence | nucleotide deletion, \=possible nucleotide insertion |
| 12359 | 26260 | A | 12476 | 364 | 234 | EEMGFHHVSQDDLNLLNSWSACLGLPKC |
| 1200 | 20200 | | 12470 | 307 | 234 | WDYRSETSRLASLPF |
| 12360 | 26261 | A | 12477 | 288 | 450 | PGTVAHACNPSTLGGPGWSRTPGLKRII |
| | | 1 | | } ==== | .50 | CLGLPKCWDFRRELLPSLPCLLIFL |
| 12361 | 26262 | A | 12478 | 271 | 396 | TISFLSFFFLFLFFFFFFWRKSGRESRF |
| | | | | |] | SOKKKKYKKKNIYY |
| 12362 | 26263 | A | 12479 | 289 | 2 | GSCLLERKLTYRKDIHTKNPSVPHHHOR |
| | | | l | | | PKVDKTPKTGKKQGRKTGNSKNQSASPP |
| | 1 | | 1 | | } | PKECSSSPATEQKWMENDFAKLREKGFR |
| | | | | | | RSNYSELQEEI |
| 12363 | 26264 | A | 12480 | 323 | 1 | YSMVYPYVFLTAKKDQLQVNNTQLTCKS |
| | | 1 | 1 | | ĺ | YQLYHCINHSTLQTHNISTLMILGHIPG |
| | | | | | | LCIPVNLSEAWAATPALHFVKLLLTELT |
| 12364 | 26265 | | 10101 | 250 | | HHVCRALDIIILAIVSLVALITS |
| 12304 | 26265 | A | 12481 | 279 | 429 | MNGQRKCVYVYTLYTYTTEYYSTLKRRK |
| 12365 | 26266 | A - | 12482 | 308 | 400 | WPGTMAHACKPNTLGGHGGWTA |
| 12303 | 20200 | ^ | 12462 | 308 | 423 | LTFFKNITGFFFFFFFETEFCFVPQAGAQ GGDLSSLKAP |
| 12366 | 26267 | A | 12483 | 272 | 474 | MVSWGLSRAKIPWVLSFFFFFEKKSHFF |
| 12500 | 20207 | | 12403 | 2/2 | 4/4 | FQGGGRGGDLSWEQPLPPRSKGFSCFTL |
| } | | İ | | | | PSTRDYRPAGP |
| 12367 | 26268 | A | 12484 | 84 | 229 | LFKSVCHLLPLSSCSSHVRQACLPFTFC |
| | | | | • | 22) | HDCKCSEASPAMLPVQPAEL |
| 12368 | 26269 | A | 12485 | 392 | 3 | TGKKKRFPFFPKKKIFNSKPQFSWRKKK |
| 1 | ľ | | | | | LFKIFSPPGGAPFPPGVQKKKTFFFFYP |
| | | | | | | FSPRTPFFSIFFPGKGPPKGGGLGPPFF |
| ļ | | | |] | | PQKRGGGFPNSKWETWEKFPPLFFFFFF |
| 12260 | 26050 | <u> </u> | | | · | ETESHSVAQAGVQWHDL |
| 12369 12370 | 26270 26271 | A | 12486 | 76 | 1 | KLISWTWWHMPVVPATWRAEAGDFS |
| 12370 | 202/1 | A | 12487 | 204 | 8 | FFIFFFFFFFFFFCFKTGSHSVAQAEQ |
| | | | | | | EWHDHGSLQPQPPQSFHLSLPCATMPGL FFLFLFT |
| 12371 | 26272 | A | 12488 | 96 | 3 | KKPLGQAMFFFFETESCSVAQAGVOWC |
| 12071 | 20272 | | 12-700 | | 3 | DL |
| 12372 | 26273 | A | 12489 | 126 | 1 | KPPHPFLPFFFFFETESHSVAQAGVOWC |
| | | | | | • | YLGSLQAPPPGFTP |
| 12373 | 26274 | A | 12490 | 107 | 2 | IAGRAWWLMLAIPTLWEAEAGGSLEPRS |
| <u></u> | | | - | | | SQPTCAT |
| 12374 | 26275 | A | 12491 | 302 | 2 | GGFGFFPPREKGGFFQTVLFGVPPGFFS |
| ı | | | |] | | PPVFKTGPGVFFLGAQKKKIFFPPPGGK |
| | | | | | | IWFFLRGAPLFFFFFFFFFFFEMTSCSV |
| 10275 | 10000 | 1 | 10105 | | | AQAGLQWCDLGSLQHP |
| 12375 | 26276 | A | 12492 | 248 | 398 | PTEQVTLGITAQSYSRVHINNRVYDLAV |
| 12376 | 26277 | 1 | 10402 | | | GSGHPDGAAAIKGSFVQRLKSY |
| 123/0 | 26277 | A | 12493 | 341 | 1 | KTSHFREIYPLEHASSLSKKIETGALPC |
| | 1 | | | | | SQELLNSQENSVMNKFPCLNQLPFQDVN |
| | | 1 | | 1 | | SCIIRFQTKDTLKHTAIQPEAKTLSLPC YTHTHTHTHTHTNNHSIFELLCMQCDSY |
| | | | | 1 | | N THIHIHIHINNHSIFELLCMQCDSY |
| 12377 | 26278 | A | 12494 | 95 | 3 | PLFFFETKSCSVAQAGVQWQNLGSLOPP |
| • | | | | | ~ | PP PP |
| 12378 | 26279 | A | 12495 | 62 | 420 | CAAKLCTEAHTAASADTHTSPHGSVSGL |
| | | | | · = | | FCFHFPPHRREQRSRPGRKPGAHRLAGR |
| | | | | | ļ | ALSQKPVGSGATPHNLHHQIRTQTNGLI |
| | | | | | | QLLGDRQAPWVTPVLPVLWEAEAGGSLE |
| 10050 | 1 | | | | | ARSLRPA |
| 12379 | 26280 | A | 12496 | 58 | 492 | NSPPPPAPSQRTSPPAAAASPTTGSSSA |
| 14317 | 20200 | | | | 772 | PCPASSSWPRSSIALITFYPDQPCGLSF |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|---|--|
| | | | | | | LLVWTLIAGTEYFRVPAFGWVMFVAVFY WVLTVFFLIIYITMTYTRIPQVPWTTVC LCFKR |
| 12380 | 26281 | A | 12497 | 2 | 198 | RLQGILSAGFLVPGDTSVSSPRPRAAGS QSSTSRVLWKLSGAMLRLYVLVMGVSAF TLQPAAHTG |
| 12381 | 26282 | A | 12498 | 71 | 346 | GMFMTSKETFTHYQPQGNSDPAHTATAP GGLSAKAPAMTPLMLDTSSRKLVAWDGT TDGAAVGILAVAADQTSTTLTFYKSGTF RYEDVLWP |
| 12382 | 26283 | A | 12499 | 122 | 59 | HQIYIYIHTHTHTHIYIYIYI |
| 12383 | 26284 | A | 12500 | 220 | 3 | PKKESVRCVVAMKWILLILCQTSLHWSL PQSSLAATPCCLNLGTVDVLQGLGAVAH AWNPSTLGGRDGWITS |
| 12384 | | A | 12501 | 125 | 1 | HVLVLSHFLFVLFLFFETESRSVTRPKR SSAVSAHRNIRLS |
| 12385 | 26286 | A | 12502 | 373 | 476 | ILTRDGVSLLPRLECSGTISAHHNLCLL GSGDYP |
| 12386 | 26287 | A | 12503 | 440 | 573 | STWEDHLSLGNRGCSEPRLHLCTPTWVT E |
| 12387 | 26288 | A | 12504 | 146 | 5 | HPHLQTMNGAPIPQELTPLLEKERDGLR CRGNRSPVPGIPPRWSRDL |
| 12388 | 26289 | A | 12505 | 140 | 44 | AQGLTPVIPALWEDEVGRSPEVRSSRSD WPTR |
| 12389 | 26290 | A | 12506 | 247 | 420 | LEISVTFSCSFGCLPKKHIHTHTHTHH THTHTHTHTHTYIRTIYTTLARPLSALH NF |
| 12390 | 26291 | A | 12507 | 346 | 473 | KAYIIGLNCFYETKSHSVAQAGVQWRDL NSLYS |
| 12391 | 26292 | A | 12508 | | 414 | RTGVYRVGKDGRSRSPDLLICPPLGLPK CWDYRREPPRPACLPLLSHPSPPPHFSF LSPFLSFSLPCSPFLYIFFPPPLLPISL RWRLIPEGRFMAPLCLQMPLGHDT |
| 12392 | 26293 | A | 12509 | 386 | 467 | LLLFFEMESHSITRLECSGAILAHCNL |
| 12393 | 26294 | А | 12510 | 344 | 472 | KFLPFDPAVSLLGIYPKESKSFYQKDTC TRMFIAILFTIANTW |
| 12394 | 26295 | A | 12511 | 424 | 132 | RGEGPPRSGILSPVGPPGETPPFLKKQK ITRGGGGGPLFPPLKRVRGENSFPPGGK SFHGAKFPFCPPPWATKRNSVSKKKKKQ TKKGSRIILYNNE |
| 12395 | 26296 | A | 12512 | 351 | 510 | GGTDFCKQSKLQSLQPAVEIFIPGRVQW LTPVISALWEAEAGGSPEVRRSRPA |
| 12396 | 26297 | A | 12513 | 362 | 463 | NTITWLGAVAHACNPHTLGGPGGRITWG QEFETS |
| 12397 | 26298 | A | 12514 | 137 | 1 | EEISLLLPRLECNGAITAHHNLHLPCSR NRRPGKAVHVRQAYSFQ |
| 12398 | 26299 | A | 12515 | 251 | 592 | GAFTGLAFTMAGGRPHLKRSFSIIPCFV FVESVLLGIVILLAYRLEFTDTFPVHTQ GFFCYDSTYAKPYPGPEAASRVPPALVY ALVTAGPTLTILLGELARAFFPAPPLAG PV |
| 12399 | 26300 | A | 12516 | 3 | 413 | SWGGRKFLCPPRSLSGSRELHPAQGDRP GPLSSSGKRETGTHRETLGKKKVSSAPE AQGAGLRLSQALGGLCYDLSPLTEPRLP LAATAFPRPCPALPHPQPRVTMGSVSSL ISGHSFHSKHCRASQNKLRKSSHLK |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------|--|--|---|--|
| 12400 | 26301 | A | 12517 | 115 | 2 | KSHGGHGVEVLVSVLVGLAMEVGLVLWV KEYDGAALA |
| 12401 | 26302 | A | 12519 | 444 | 34 | YCLRQKHTEYRRRSNLEMASSCLSGRKT CTFFTLYQNLKMIKLSEEGTWQAEWLKS RPLAPNSKVVEAKEKFLKKIKSVTSLNT YILRKPNSLIADMENILVIHIEYQTSYN IPSSQRLIQSKALCLFNYLEMECRI |
| 12402 | 26303 | A | 12520 | 1088 | 935 | ILIIFINYRCEFLRSKKSSEEITQYIQS YKGFVDRTVMYNSNFFLKFLDYL |
| 12403 | 26304 | A | 12521 | 2 | 347 | AMAAGSRTSLLLAFALLCLPWLQEAGAV QTVPLSRLFDHAMLQAHRAHQLAIDTYQ EFEETYIPKDQKYSFLHDSQTSFCFSDS IPTPSNMEETQQKSNLELLRISLLLIES WLE |
| 12404 | 26305 | A | 12522 | 50 | 205 | VVGESDRQSSGFWASSAHACNPTWEVET GGSLEARSWRLQCTMFASVKSTRP |
| 12405 | 26306 | A | 12523 | 105 | 2 | RFVCSTIKVLRDLSSDRSNPGRFLSTSN SSLYER |
| 12406 | 26307 | A | 12524 | 279 | 455 | KTKNWLALGGPPCFPGQYGETPSLLKNE KLAGHGGAPLYSRLLRRLRRGNSLTPGD RGC |
| 12407 | 26308 | A | 12526 | 305 | 454 | LYFLLFPFQIINRMVLFFVFCFFFETES HSVPQAGVQWRDLGSLQAPPPG |
| 12408 | 26309 | A | 12527 | 363 | 459 | CTILGQAWWLTPVILALWEAEAGRSPEV RGSR |
| 12409 | 26310 | Ā | 12528 | 182 | 36 | QHIVVFHKEHGQVRWLTPVISALWKAEA GRSPEVRSSNAAWHACRNSA |
| 12410 | 26311 | A | 12529 | 388 | 530 | KSFLNFFPRDGILNCVPQAGLELGSSDP PASAFRVAGTTSVWHHSQI |
| 12411 | 26312 | A | 12530 | 134 | 1 | GHKKGVLFFFFKTESRSVAQAGVQWCTL GSLOPPLPAHATRPRV |
| 12412 | 26313 | A | 12531 | 230 | 1 | KKFGFFPQAGPQGGLHLFTTLAPWGQAT SQKREKPFFFFFFETEPHSVARLECSGT ISPHCNLHLPSSNDSQASTS |
| 12413 | 26314 | A | 12532 | 145 | 3 | KKLEILSAIIPPKFRKEIFLFFFYETES CSVAQAGVQWRDLGSLQAP |
| 12414 | 26315 | A | 12533 | 365 | 2 | LFFFTSLIWQITLGFLILNCPCIPGVCI YIQFANTFRKFAFLFTNEIAYNILILPL TKQDYTNLIKLIKKHSFFSNFLKQLLFV FCFVFVSLFAMESCSVAQARVQWRNLGT LQPPPPRFK |
| 12415 | 26316 | A | 12534 | 313 | 475 | FFWSCSSFQQGFGGGITIIIILRWILA LSPRLERKWRDLGSLQPSPSGFKRFF |
| 12416 | 26317 | A | 12535 | 124 | 3 | MGSLIMGAELSVYRQVCDCKPQGVCVCL CVCVCVCASTCM |
| 12417 | 26318 | A | 12536 | 333 | 58 | ACNPSKVRSCRPAWSNMVKSCLSKNAKI TKEWWWANFFFVFVFLVEMMFHHVGQLS LKLLTSSDLAASASQSYGITGVNHYAQP ARTRGSFR |
| 12418 | 26319 | A | 12537 | 214 | 3 | SDPRRACRCPKEAPEQQRRLPGGSVPAL SIFFFFKTESCSVPLSPRLECSGVISAH CKLRLPGSCVPPAS |
| 12419 | 26320 | A | 12538 | 146 | 1 | MNFLAFTNPPRPPQQILKPLLFILRRES HSVAQAGVQWCDLSSLLPPA |
| 12420 | 26321 | A | 12539 | 195 | 1 | IFIPPQAQKRGDPFLSFFFFETRSPSPR LECSDAITAHCSLHLPGPGEPPTPPIPK SWDHSHVPP |
| 12421 | 26322 | A | 12540 | 151 | 334 | LLGRLRHKNHLNPGGGGCSGTIMALCNI |

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|--|---|----------------|--|--|---|--|
| | | | | | | RYFLY |
| 12422 | 26323 | A | 12541 | 314 | 402 | NLNSGPAWWLMPVIPALWEAEAGGSPEV G |
| 12423 | 26324 | A | 12542 | 339 | 3 | GSCLLEGKLPNRKDIHTENPSVHHHHQR PKVDKPTKMGKKQNRKTGNSKTQSVSPP PKERSSSPATEQSWMENDFDELREGFRR SNYCELREDIQTKGKEVEIFEKNFERV |
| 12424 | 26325 | A | 12543 | 31 | 365 | RSAVMPTEDRATWKFNYFLKIIQLLDDY PKCFIVGANDVGSKQMQQIRMSLRGKAV ALKGNNTMMRKAIRGRLENNPALEKLLP HIRGNEGSVFTNEDLTEIRDMLLGNKV |
| 12425 | 26326 | A | 12544 | 278 | 410 | FSFKNVTAGRVWWLMPVIPALWEAEVGG SPEVKRSRTTLANMVK |
| 12426 | 26327 | A | 12545 | 88 | 276 | EVPQAHRKLPSAPQLRPLQAISTKGPCP PQSPQPSPRPEGSSAHSRGEKRTRERGK EEKRKKK |
| 12427 | 26328 | A | 12546 | 251 | 3 | PVEDNSKRRFQTGEEKVTQEEQEALTPW RTNFFCFSDRVSVAQARVQCCDSGSLQP QLPGSSDLPTSASQVAGTTGMRHHAC |
| 12428 | 26329 | A | 12547 | 106 | 2 | DEHLPFLTSFETESCSVAQAGVQWRDLG SLQAPP |
| 12429 | 26330 | A | 12548 | 225 | 1 | GFFKKEPHPRPCKKKTPPKLKPFWGGLN KKIPLSFVFSKKGPLPKKFFFFFFFFT GSCSCHPAGVQWCDHGSLQ |
| 12430 | 26331 | A | 12549 | 218 | 3 | VPPPGLVPGLPQIIPKGFPKTKGPPKGP PPGDKQKSGPPNKKNFFFFFLRRESHSV AQAGVPWCDLGSLQP |
| 12431 | 26332 | A | 12550 | 276 | 24 | GPLKMVEAPPQNPLSPKNKIFFFFFFET ESHSVAQAGVQWRNLRLPGSSDFPASDS RGAGITGARPHVQLIFVFLVKTGRKRR |
| 12432 | 26333 | A | 12551 | 331 | 440 | KSASSWSFNSKGWGWWLTPVIPALWEAE VGGSLEVR |
| 12433 | 26334 | A | 12552 | 136 | 1 | RHTGSKTTATALVDVFLLLFFETESHSL SRLECSGTTPGHCNLYE |
| 12434 | 26335 | A | 12553 | 84 | 1 | IFFCLFSFEMESHSVAQTGVQWCDHGSL HASGPEELSKDPSLVSQGQPHRKPGLKR |
| 12435 | 26336 | A | 12554 | 3 | 349 | CSSRPLGPPDKLGGEGKQGLLGFTLWLS GPIKPCDDEEKNKKKKKKKKKKKKKKLGG GPFKKKLFFPPGGGRNFFFLGAPKFFWA GRF |
| 12436 | 26337 | .A. | 12555 | 257 | 417 | KQLHLLQGRLFSPSFLPSISKLFFFEME SRSVTQAGVQGCDLASLQAPPPGFT |
| 12437 | 26338 | A | 12556 | 268 | 403 | YMRLSFQDLVMFKDVAVDFSQEEWECLN SYQRNLYRDVILENYSN |
| 12438 | 26339 | A | 12557 | 286 | 426 | DMLIKTCCHLVCEKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK |
| 12439 | 26340 | A | 12558 | 114 | 1 | PLKEIANRHMKKCSSSLAIRQMQIKTTM RYYFTPVTMA |
| 12440 | 26341 | A | 12559 | 106 | 1 | FFFFFFFFFFFFFFFFFEMESRSVAQA GVQWCDL |
| 12441 | 26342 | A | 12560 | 118 | 2 | KNYSNNLKTNAGRAQWLTPAIPALWEAE AGKSPEVRNW |
| 12442 | 26343 | A | 12561 | 196 | 2 | MCCFSKNWQEGAQMTPGFEPPQDNSEKT KLSDTRLLFFFFERESRSVAQAGVQWRG LGSLQAPP |
| 12443 | 26344 | A | 12562 | 128 | 3 | RAPPFFFFETEFRSLPRLECNGAISAHR |

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|--|---|----------------|--|---|---|--|
| 12444 | 26345 | A | 12563 | 277 | 370 | NLRIPGSSDSPAS WSFTLVPQAGAQWCDLGSLQPALSRFKR |
| 12445 | 26346 | A | 12564 | 55 | 251 | FSR AMVIPTVPFNITINSKPLGHISFQLFAD KFPKTGENFHTLNNKDKGFGSCFHRIIP EFICQGDDF |
| 12446 | 26347 | A | 12565 | 129 | 3 | KYSVLRPGTVAHTCNPNTLGGRGGQITW GWEFETSLANVAK |
| 12447 | 26348 | A | 12566 | 172 | 1 | PPPKKKKPRPPKKKNFFFFFGAISAHCN LCVPGSSDSPASPSRVAEITGSRCHAEP Y |
| 12448 | 26349 | A | 12567 | 257 | 380 | GICRPLLGGVLQSGATGVRDPLEEAVCP LAELKHCAGRSTA |
| 12449 | 26350 | A | 12568 | 120 | 1 | GVFLFCFVLFETESCSVARLECSGMISA HCNLRLLGSSNS |
| 12450 | 26351 | A | 12569 | 250 | 2 | IGKPKTPQFWFLKTKRGGPNAAFSFKKF FFQLKPPPRVFLKIFSCQKKIFFFFFFE TESRSVPQARVQWHDLGSLQAPPPGF |
| 12451 | 26352 | A | 12570 | 338 | 3 | VSTPEKNFVFHTRGFSKKSSKYKVCNFF FQKKLGSPPFSLKKVFPGKPPYSCCSGR VSTAPYFLNPGPSTKILPPFFGPLGPEE KFLSFFFFFEMECRSVIQAGVQWCDLG |
| 12452 | 26353 | A | 12571 | 5 | 556 | ICCCLCFKINIFQLHFNKINFFCVTRSG PVTQAGVQWCNLGSQQPQPLSSKQS |
| 12453 | 26354 | A | 12572 | 115 | 2 | DRVSLLVLAHCNLCLRGSSDSPASASRV AGITGARHD |
| 12454 | 26355 | A | 12573 | 279 | 377 | GQVQWLMPVVPAFWEDEAEGLLQPSSSR PAWAT |
| 12455 | 26356 | A | 12574 | 117 | 1 | KTPLFFFFFFFEMESRSVAQAGVQWYDL GSLQAPPNGFT |
| 12456 | 26357 | A | 12575 | 253 | 374. | SLPGMVVHACNPSPLGGRGRRITWGRKF GTSLANMAKPCL |
| 12457 | 26358 | A | 12576 | 130 | 2 | KFPGPFLGFFFFFFEMESRSFAQAEVQW RDLGPPQAPPPRFT |
| 12458 | 26359 | A | 12577 | 132 | 3 | RVPGPPLLFFFFFFEMESRSFAQAEVQW RDLGPPQAPPPRFT |
| 12459 | 26360 | A | 12578 | 3 | 370 | LRKNCLNLGGRECSELRSHHCTPAWVTE RDSVSKKKTLSVLMEKWPNFPLRPLALS RKKFPRGPFEQVTHLVKEVVSLTKPCCA EGADLDCYDPRTSPLFAKSWERNFPFPV HPGPVEGCPK |
| 12460 | 26361 | A | 12579 | 131 | 2 | FIYFLFYFLFLETESLSVAQAGVQWHDV GSLQTPPPRFTPTRA |
| 12461 | 26362 | A | 12580 | 202 | 2 | RMRKNQHKRAENSKNQNTSFPPKDHNSS QTREQNWMENEFDELTEVGFRRWVITNS SNLKEHVFSC |
| 12462 | 26363 | A | 12581 | 109 | 2 | KIFFFFFFETESRSVPQARVQWHDLGSL QAPPPGF |
| 12463 | 26364 | A | 12582 | 105 | 375 | LIMILLPLQILVHSGTFCFLFFGFETEF HSTPRLECNGVMSAHCNLCLPVKTSPAS TSQIS |
| 12464 | 26365 | A | 12583 | 106 | 3 | RPIFFFFFFQTESRTVARAGEQWCDLGS IQPPPP |
| 12465 | 26366 | A | 12584 | 484 | 700 | SSSWNRAFSRKKDKTWMHTPEALSKHFI PYNAKFLGSTEVEQPKGTEVVRDAVRKL KFARPIKKSEGQKKKK |
| 12466 | 26367 | A | 12585 | 301 | 1 | TQPKVRTQMKNNIFEHAFLSSTFPWPLP |

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|--|---|----------------|--|--|---|--|
| | | | | | | NLPADFYSATSQTKPDILQSMQKAFKNS GIGQAWWLIPAIPAALWKAEVGGLLEPR NLRPAWVYGKTLSLQK |
| 12467 | 26368 | A | 12586 | 76 | 379 | PLHPPASCPAPSLSCLIPGSPSDPLFSD SARPGWGRGWGRAPQLPPSPPFLYNLIK KWSRFCHQKKKKKKKKKKKKKKKKKK KGFFFWRAPPFFFFGGGFFS |
| 12468 | 26369 | A | 12587 | 109 | 376 | LEFFKMSGVVPTAPEQPAGEMENQTKPP DPRPDAPPEYNSHFLPGPPGTAVPPPTG YPGGLPMGYYSPQQPSTFPLYQPVGGIH PVRYQ |
| 12469 | 26370 | A | 12588 | 323 | 1 | KKFCPPRFFPPLFGFQKKGTNPISPFSG GFKKNLGGFNPPPRPPWSPQIGFFLGRS KELILGLFPTRIGIGGFFSFFFFCETKS HPVMRLECSGVISAHCNLRLLVS |
| 12470 | 26371 | A | 12589 | 262 | 1 | GDPPTTSGPQTNQPKEHLMNFKSDSQLY EDTLAGRSVLIKNLTPQTLQPRWTGPYL VIYSTPTAVRLQDPPHWVHRSRIKLCPS EKK |
| 12471 | 26372 | A | 12590 | 284 | 374 | TESRNWGWAQWLTPVILPALWEAEAGGS PE |
| 12472 | 26373 | A | 12591 | 297 | 387 | GQAWWLTSVIPAFWEAKEGGSPDVRSSG LA |
| 12473 | 26374 | A | 12592 | 206 | 407 | VKPQNPRKAQKLKGLVYIHIYVYIYVYV YIYIYIYMYICRYISLTVVYTVNSKEKG LDTAAHTCNSR |
| 12474 | 26375 | A | 12593 | 222 | 379 | LTTGSIMGNFSFLILVYTRKVMGSVQWL TAVIPLLWEAEAGGSLGSRSSRPA |
| 12475 | 26376 | A | 12595 | 301 | 189 | KKIQSQAQWLPPIIPALLEAEAGRSLEL KNSRSAWAS |
| 12476 | 26377 | A | 12596 | 209 | 3 | SVKPLFFINYQSQVVLFLFFRGRLKRSG TISAHCNLHLPGSRFSCLGLPKCWDYRC APPTLKIDLTKD |
| 12477 | 26378 | A | 12597 | 306 | 3 | NGKKGFYMAPEPPFFFHFFFFSPLFPTL FFFFIFPLPFCFALSFLVGSSSLSPRLL CPMQHYFCDAWNTFDALIVVGSIVDIAI TEVNVSTWRLSLTVRV |
| 12478 | 26379 | A | 12598 | 1 | 249 | NTGAQCPLEFSIQELQLLFLGGGEDGVS LLLLRLECNGAISAHCNLRFPGSGDPPA SASRVAGITGACRDHTCEPPRPVPPSS |
| 12479 | 26380 | A | 12599 | 228 | 404 | RLSSLSPVTEFGCLSPPDLILKCDPWPG TVTHTCNPSTLGGRGGWITRGQEFKTSP VNM |
| 12480 | 26381 | А | 12600 | 101 | 580 | LSLTKNCALLGEETMMEQEMTRLHRRVS EVEAVLSQKEVELKASETQRSPLEQDLA TYITECSSLKRSLEQARMEVSQEDDKAL QLLHDIREQSRKLQEIKEQEYQAQVEEM RLMMNQLEEDLVSARRRSDLYESELRES RLAAEEFKRKATECQHKLLK |
| 12481 | 26382 | A | 12601 | 464 . | 3 | CAIQQTLYEHPMKSSRLGPTQLKIFTCE YCNKVFKFKHSLQAHLRIHTNEKPYKCP QCSYASAIKANLNVHLRKHTGEKFACDY CSFTCLSKGHLKVHIERVHKKIKQHCRF CKKKYSDVKNLIKHIRDAHDPQDMYCGR SRGSARMSRALPS |
| 12482 | 26383 | A | 12602 | 140 | i | WIGSFLSSEEDGTVVQKISGVQRSLSLY VYIHTHTHTHTHTHTTTV |
| 12483 | 26384 | A | 12603 | 112 | 2 | ESLRPGAVAHTHNPSTLGGRDGWINKDK |

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|--|---|----------------|--|---|---|--|
| 12484 | 26385 | A | 12604 | 139 | 1 | EFKMCERV KKRVKRGPPGGFKGLGGKFFFSPKTFFF |
| <u> </u> | | | 10.60 | | | FFFETESCSVAQAGVQWR |
| 12485 | 26386 | A | 12605 | 204 | 460 | SGQGNGEICHPRGFCTLPKAISSLLIAR VCLKHFNKGVASLSQTANGCFFEGFSET ESRSVIQAGGQGGDPGSLQPPPPGSCLS L |
| 12486 | 26387 | A | 12606 | 317 | 1 | KRPLFKNIFQKPFFKNGAPRKKGPRCIF |
| | | | | | | GPNQKNPLFFPAPLSPPFWETKKGAGFF FWGFPFPPTKIIGGQKVPFPPTFPPFFF |
| 10407 | 06200 | 1 | 10.60 | 240 | 267 | FFETESLSVTSLECSGAISAH |
| 12487 | 26388 | A | 12607 | 248 | 367 | TQILSSGSVQSSLHHPPICFIHTHTHTH THKHKHPHS |
| 12488 | 26389 | A | 12608 | 2 | 387 | QKQQQRAGRETSTCSLRIISAPTMATFV ELSTKAKMPIVGLGTWKSPLGKVKEAVK VAIDAGYRHIDCAYVYQNEHEVGEAIQE KIQEKAVKREDLFIVSKVQWCIWLAFNT IVPKSQWQSLQTPQRC |
| 12489 | 26390 | A | 12609 | 258 | 23 | MWERGIIRPQTQTLTGEPEGLDHGRSIS PNSVMNGIVPHISILTLNINGLNAPLKR PGIAEWIRIYQTSMCCLQETGR |
| 12490 | 26391 | A | 12610 | 176 | 433 | DALSSAWGTVLGTQIPSHFTEILMLSPP AWGSSSLTQTLFYVPSGAKRTGSYVLAR VGQKYKTLWLGAVAHACNPSSLGGRGRW IT |
| 12491 | 26392 | A | 12611 | 312 | 410 | AHMYRTCSRGWVSWLTPGIPALWEAEAG GSLEP |
| 12492 | 26393 | A | 12612 | 3 | 289 | VFEFLSRKLSYILRMFWTFKEWFWLERF WLPPTIKWSDLEDHDGLVFVKPSHLYVT IPYAFLLLIIRRVFEKFVASPLAKSFGI KETVRKVTPNT |
| 12493 | 26394 | A | 12613 | 294 | 432 | FMKLFFFFFFFERRSCFVAQSGMQGGYN ASLQPLPFGSSNFSGLPL |
| 12494 | 26395 | A | 12614 | 138 | 375 | SPNATCGHADPLPLCCLHICQALKRFTR QTFFFEGKPYLGILLYAVFFFLRLESCS VAQAGVQQPNLSSLETPPPSA |
| 12495 | 26396 | A | 12615 | 232 | 1 | GVPQRAKLRAGLCPPQAMDTFSTKSLAL QAQKKLLSKMASKAVVAVLVDDTSSEVL DELYRATREFTRSRKEAQKML |
| 12496 | 26397 | A | 12616 | 236 | 419 | LEMRNGWVWFFPPVNPTLWETEGVRDQP GQHEETLSLKIIFKISRHGGMRLGSQLL RRLRQ |
| 12497 | 26398 | A | 12617 | 197 | 1 | LCHESEGFLSRVSÄLLFTLLLLVIMESP PSVSQPGVQWPHFSSLQPLLPRFKQFCN TLPSGWDYK |
| 12498 | 26399 | A | 12618 | 132 | 3 | NSFMFHLFTYFEMESCSVAQAGVQWRDP GPLQAPPERVGGRV |
| 12499 | 26400 | A | 12619 | 255 | 2 | MNSLNSFTDIAVIPLHYNRILPHFKIIL SYFLKSKFQVKGIGRVKWLTPVIPTLWE AEVGRSLEPRNCPAHQPGQYGKILLYKK |
| 12500 | 26401 | A | 12620 | 141 | 2 | FHFTYIIISCVCVCVTESRFVARLECSG AISAHCKNHRPGSSNSPA |
| 12501 | 26402 | A | 12621 | 274 | 421 | TYVMEVCCTYYFLAQVLSLAPFNYFIIR PDPRTDPRPDPRPDPRPEPRP |
| 12502 | 26403 | A | 12622 | 132 | 2 | NQSIKKKIELQGFQRSGGRGKGQVQWLT HIIPARWEAKVGRSP |
| 12503 | 26404 | A | 12623 | 390 | 86 | IFPFFYQNTNGMAPGNQIPQGFSSRFFF FLRQVLALWPSLEYTGEITDQCRLKCSS |

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|--|---|----------------|--|--|---|--|
| | | | | | 334 | SLSLCSSWDNRCAHPPLVNILFYVETGS |
| 12504 | 26405 | A | 12624 | 297 | 396 | HYVVHIGLKLLHSRYPG IIRVRGRAQWLTPVIPALWEAKAGGSPG VRKSR |
| 12505 | 26406 | A | 12625 | 303 | 381 | KFHLVPSINTMSGSQELQWMVQPHFL |
| 12506 | 26407 | A | 12626 | 318 | 152 | GDKRRLVSKKKKNLWNFGRIQWVPPVIP ILLEGEAGGSPEVRSFRPTGQQSMTPF |
| 12507 | 26408 | A | 12627 | 48 | 388 | QLGNGKVRLLYQRHSSSFFFFWGEGFPP GPQGGGGGPNLGPRESPPPGVKGTPPPS LLEGGEPPGPPPPPGNFWGFWKKGGLPL YPGGPPTSGPKGEAPPTPPKGGGGIKGL P |
| 12508 | 26409 | A | 12628 | 116 | 3 | KVATNQAQWLMPVIPALWEAKAGGSSEV RSSRTADAW |
| 12509 | 26410 | A | 12629 | 227 | 400 | VLFVLFFCKEWHVFIFLILPVYSYKKKK KKKKKKKKKKKKKKKKDSQKKD |
| 12510 | 26411 | A | 12630 | 182 | 3 | TNWLFPPPKFGPVPLFFLPPFFFFFET GSHTVAQAGVCSGAILAHCNLRLPGSSN TPA |
| 12511 | 26412 | A | 12631 | 134 | 473 | ASTIMDLLFGRRKTPKELLRQNQRALNR AMRELDRERLKLETQEKKIIADIKKMAK QGQMDAVRIMAKDLVRTRRYVRKFVLMR ANIQAVSLKIQTLKSNNSMAQAMKGVTK A |
| 12512 | 26413 | A | 12632 | 100 | 462 | QLLLCCCCCRQWTAFNVPASPAPPPAWA HMAPSLLEPPSLLVTQICKLSAFSGPSI NAFLLSKKKKKKKKKKKKKKKKDRGGAPLKK KK |
| 12513 | 26414 | A | 12633 | 313 | 441 | CWELLKWLVCFLCHIIKTNNCWAQWLTP VIPTLWEAEVGGSLE |
| 12514 | 26415 | A | 12634 | 129 | 400 | VSQQCWPTPPALYSISRQALAASPQGRP WDLQPTMPESPLLPPRAPAWPKPLRRAL PPAPRCLGPSTAQGLRSAGAWCGTGRHL HLRPQC |
| 12515 | 26416 | A | 12635 | 308 | 399 | EIRGWTQWHVPVIPALWEAEAGGLPEVG SS |
| 12516 | 26417 | A | 12636 | 285 | 390 | IFGVLINSFIYFETESRSVVRAGVQWRD LGSLQPP |
| 12517 | 26418 | A | 12637 | 260 | 2 | GQGPFFFGGRGSPKKKPPLKGFFLVGGS KTQFFFPRPKKGPFGVFFFFFSQTASRS VTRLECSGMILAHCNLRLPGSSDSPASA SR |
| 12518 | 26419 | A | 12638 | 76 | 3 | ALQVQWLMPVIPALWEAKAGGSLE |
| 12519 | 26420 | A | 12639 | 219 | 484 | LGLQEPDLDPKPILELPLAELAQQLQTE ELSLESILCSYLKQALKVHQEVNCLMIF LGECEEELLALKKLKKSERGLLYGVPMS LKDT |
| 12520 | 26421 | A | 12640 | 33 | 462 | EGLSWGYREHNGPIHWKEFFPIADSDQQ SPIEIKTKEVKYDSSLRPLSIKYDPSSA KIISNSGHSFNVDFDDTENKSVLRGGPL TGSYRLRQVHLHWGSADDHGSQHIVNGV SYAAELHVVHWNSDKYPSFVEAAHEPDG LAG |
| 12521 | 26422 | A | 12641 | 2 | 414 | SGPAAPATPMSIFPELYFNVDNGYLEGL VRGLKAGVLIQADYLNLEQGETLEDLKL HLQSTDYGNFLANEASPLTVSVIDDRLK EKMAVEFRHMRNHAYQPLASFLDFITYS YMIDNVILLITGTLHQRSIAELVPK |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|---|--|
| 12522 | 26423 | A | 12642 | 161 | 463 | KEKARGRPKPLLLLPITSATTAMGLTIS SLFSRLFGKKQMRILMAGLDAAGKTTIL YKLKLGEIVTTIPTIVFNVETVEYNNIC |
| 12523 | 26424 | A | 12643 | 124 | 2 | FTVWDDGGQERIRPLWN TVFGGQAQWLMPIIPALWEAEAGRSPEV TSLRPAWPRTRG |
| 12524 | 26425 | A | 12644 | 258 | 454 | NRFELCDYQGLREDSKRKGEINQTACQF LWPRQKMSSQTKFKKDKEIIAEYEAQIK EIRTQLVEQ |
| 12525 | 26426 | A | 12645 | 636 | 182 | APLERPSMIPPRCSGGQPSDLRSSPAQG TPRPALGDRKGTPRIAEPGGAGRAEAPP PRGSRQRFGPQRRQTNAHTKRVRTRLSA APARHSPAFIACRQVGRPRLSARRSGKK PHLTVWCPFSFQDPIQDTTLQIILLSLL GGDTFSDFPCS |
| 12526 | 26427 | A | 12646 | 199 | 414 | TYHTSRSLLDRKLRAQRYDELPHYGGMD GVGVPASMYGDPHAPGPIPPVHHLNHGP PFHAKQNYGAHAPHPN |
| 12527 | 26428 | A | 12647 | 130 | 3 | DRGFLCVHTPLKKKKNTHTHTHTHTHTH TNTHTHSHTHTHTK |
| 12528 | 26429 | A | 12648 | 192 | 443 | LLLCWAQESLGTLGENTASSHTAGLEWE SPLFACWFFWGFCLFVWLFVWFEPKSGS VLTLECSSVITAHCSLDLPGSRDPPASA |
| 12529 | 26430 | A | 12649 | 393 | 179 | LHSRVQRSGCFCSCVSNPVTGGMHFTRS SPQSNQEADGQARWLTPVILALWEAKAG GLPELKSSRPAWATP |
| 12530 | 26431 | A | 12650 | 263 | 2 | KAPLLVYKWEPNPGGGNFSPGMGTPNTF GVRFGGETKPLFFFFFETGSHSVIQAGV QLCNLDSLQPPPPSVKPSQYSWDHRKQS NTK |
| 12531 | 26432 | A | 12651 | 355 | 111 | QDPCFIRLHLPLSFLSVFLECTKISLLD WRMLFPLLGDPPHLALSSLVSPINTWNY SFQQLMMFRDVAVDFSQEEWECLDL |
| 12532 | 26433 | A | 12652 | 271 | 3 | RQLKNILIFFSHKNMLSIKHIIYNYTLF LKSAFIFNLETDHLNCFPGSISAKSYFI LFYFFETEPHSVAQAGVQWRDLSTLQPP PPRFT |
| 12533 | 26434 | A | 12653 | 333 | 2 | PPSPGVFGNPPSPGDPLGKTFFFPRGPP PRFWGGGFFFILAPFPFGGLFPPFPLPP SQGPPFFPFFFFFFFFEMESRSVSQAGV QWRDLSSLQPPRARFSDSPLYFLEGR |
| 12534 | 26435 | A | 12654 | 310 | 444 · | TYLSNIFYFILFLVETESPSVAQDGVRW CGLGSLGPPPPGFGRFS |
| 12535 12536 | 26436 26437 | A | 12655 12656 | 336 114 | 411 | DQPGQHGETPSLLKIQKLVECGGAH GIFFFFGLESRSVAQAGVQLCDLNSLQ |
| 12537 | 26438 | A | 12657 | 191 | 1 | SPPPGFKQF KNFILTFSFRGAKNGDVFFPPPGYIOTG |
| | | | | | - | ENFFFFFFLKWSFTLVAQAGVQWCNLSS LQPPPPR |
| 12538 | 26439 | A | 12658 | 1 | 445 | LRTGSEFSGRDSKGLAAAEPTANFGLLL ASIEDQGAGGGGYCGSRDQVRRCLRANL LVLLTEAAGVAGVALGLGVSEAGGALAL GPERLSAFFFPGELLLRLRMIILPLVG CSLIGGANSLDPGALGRLGAWALLFFLG TTLLASAL |
| 12539 | 26440 | A | 12659 | 2 | 224 | ESTASRIAFEAWQPETLPKGLNYSGASP VVLNAVLPLKKKKKKKKKKKKKKKKKK KKKGGGVFKKKKIKGGGG |

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|--|---|----------------|--|---|---|--|
| 12540 | 26441 | A . | 12660 | 96 | 1 | GLKDGRGQVQWLTPVISAPWEAKVGGSP EVMS |
| 12541 | 26442 | A | 12661 | 1 | 457 | CWVHLQKGCHFTLGRLHSGQAEALLTSQ TGRPGRGAPHIPDGAARQRRSSHPRRGG QAEALLTSQTGQPGRGAPHLPDGAAGQR RSSPPRRAAGQRGSSPPRRWAAGQRLS SLPRQGGRAEALLTFQTGRPGRGAPHIP DEAAGQRGGAG |
| 12542 | 26443 | A | 12662 | 175 | 351 | KGIFFFPPSWKAGGAIWFKGTFAPRGKG NPPPNPSGEGGPKKKKPGPQIPRGPPLG PPV |
| 12543 | 26444 | A | 12663 | 247 | 401 | SSNQEPGCKGPCVLTNFYFILGRAWWLM PVIPAIWEAGTGGSPEVRSWRPT |
| 12544 | 26445 | A | 12664 | 152 | 251 | RENSCCFIKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKKK |
| 12545 | 26446 | A | 12665 | 2 | 365 | APTRSRCLRHASCTACRTVSTDTSSLRR ADPKGRSALLADIQQGTRLRKVTQINDR SAPQIESSKGTNKEGGGSANTRGASTPP TLGDLFAGGFPVLRPASQRDVAGKEEFI LAPLWTVSP |
| 12546 | 26447 | A | 12666 | 179 | 1 | LELSKSGSHWMRHFLSRSFYSLISPQLN TTVWPTIITPILLTLFLITQLKILNTNY HLP |
| 12547 | 26448 | A | 12667 | 279 | 35 | NQAPFKARFFTTFKNVFLKEIKKKRCWS GAPPIIPPPWGGGGGGPPWGGNLSPPGP PVSTPFFNGAQKKKKKKDRYGGACL |
| 12548 | 26449 | A | 12668 | 299 | 399 | ISIKKQRKGPVQWLMPVIPALWEAKAVG SPEVR |
| 12549 | 26450 | A | 12669 | 1 | 385 | KMQNRGFFFLTFLALLGLTSGAAKKKNK GKKAGPGSKSPNWPWGPCPPSSKDCGGV FRKGTWGAQTHGIRGRGPCNWKKEFEAN CKSKFKNWGAGDGGPGTKVRQGTLKKAP SIAKGQETIRVTKPCT |
| 12550 | 26451 | A | 12670 | 357 | 1 | AGKIAKICPVSSMQAPTCGFPVGGNDNQ GQAPDGQFQPPLQQNQTSSPDFSNENSP ATPFNEQGQGDAPPQLEDEEPAFPHTDL AKLDDMINRPRWVVPVLPKGELEVLLKK GIDFSKK |
| 12551 | 26452 | A | 12671 | | 373 | TGNYTPLEDCAQEQMRLIAQVHLLETRV KQQQVKIKQLLQENEVQFLDKGDENTVV DLGSKRQYADCSETFNDGYKLRGFYKIK PLLNP |
| 12552 | 26453 | A | 12672 | 196 | 45 | YLYFHGSREKRLAKKYYDKLFKECCIAD LSKYKENKVCFPHIYGKRFLFK |
| 12553 | 26454 | A | 12673 | 33 | 448 | KEGAERAGAAAPVWSFLLDRRDSARTRS GTSLGSADMGDMKTPDFDDLLAAFDIPD IDANEAIHSGPEENDVPGGPGKPQPCVG SESEHTASASAGDGPGVPAHASDHGLPP PDISVLSVIVKNTGLSRAGWRPWVDV |
| 12554 | 26455 | A | 12674 | 250 | 29 | KKQTNMWQSPYEDYRIFYTISSSLYHLS IYPPIYLSIYLSIYLSLYLPTHLSIITD YVSILEHELRPLWRIQP |
| 12555 | 26456 | A | 12675 | 377 | 442 | SDRQWWCMPIVPATWEAEAGES |
| 12556 | 26457 | A | 12676 | 1 | | RIFFGRRFRVKLPSCPDPAMGTRLLFWV AFCLLGADHTGAGVSQSPSNKVTEKGKD VELRCDPISGHTALYWYRQSLGQGLEFL IYFQGNSAPDKSGLPSDRFSAERTGGSV STLTIQRTQQEDSAVYLCASSLATAWHS |

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|--|---|----------------|--|--|---|--|
| | | | | | • | RLLPAHKPHPSLSLQLLDTLNRGFSLLL PPHGKQVDLDLSLSFG |
| 12557 | 26458 | A | 12677 | 232 | 3 | GWSSDCQQRARVIEEKHSRQKGHIAENP SVHRHHQRPKVDKTTKMGKKQNRKTGNS KTQSASPPPKERSSSPATCI |
| 12558 | 26459 | . A | 12678 | 134 | 3 | IFIVEFGGKPFSCTSISLSQWLWCLFIG IGELLWGQVSTGTLY |
| 12559 | 26460 | A | 12679 | 212 | 47 | NGTHPHGYTLHTHKHTHSCAHTHTHTHS LLLVRKSFLPQKNTTISFRSCCKLGKP |
| 12560 | 26461 | A | 12680 | 224 | 2 | MKMASFLAFLLLNFRVCLLLLQLIMPHS AQFSVLGPSGPILAMVGEDADLPCHLFP PMSAETMELKWVSSSQCI |
| 12561 | 26462 | A | 12681 | 35 | 397 | KPLISONKIHSVSSSQTGFFFFFFFGE KKPPFAPRGGGKGPPPPLPPGGGNRAPP RGEKKGKGKPPPKNPGAFPPQKEKKTPG GGGGKKKTPAPPTPKEVDQPLPRREQRG PGRLPPRGA |
| 12562 | 26463 | A | 12682 | 188 | 514 | HTTHLVYVLSMAAFFFFFFEKNFLFAPR VEKRGKDLGSLKLPPPGFRHFSGLTLQG SGNNGAPPPSPVIFLVFFEKRGFPLVGR EGLILPPLQPAPFCISFRGAINGPS |
| 12563 | 26464 | A | 12683 | 366 | 3 | ISQTQTQWTDWVSLELQGCELAHRDTVA IPQTRSFPFPLMISCMTLFSLLQMDRAF PPFPPQTPITIQGQISTSPATWPLTHLH STPGLSVEYSSNTHKSSLSPTSQWIRVD PMLASPTV |
| 12564 | 26465 | A | 12684 | 99 | 1 | SSCIRFFLEQAYGQQSYGTYGQPTDVSY TQACI |
| 12565 | 26466 | A | 12685 | 247 | 31 | FLKEKRNQFYLFIFQRWLDPNKPIRKQL KRGSPYSLNFRVKFFVSDPTKLQEEYTR WVYGYIFLENIVKTLI |
| 12566 | 26467 | A | 12686 | 416 | 253 | PSPMTIPVTGAPRDADLWSSHAKMLAQP LKDSDVEVRFLGSSQIFLCWRPSFNL |
| 12567 | 26468 | A | 12687 | 116 | 3 | CLLGRMWWLMPVIPALWEAKAGRSLEVR SLRPARPMY |
| 12568 | 26469 | A | 12688 | 380 | 1 | SPESSKLGLWSKHVSPLLCIGVCPPPVS MAELRQVPGGRETPQGELRPEVVEDEVP RSPVAEEPGGGGSSSSEAKLSPREEEDL DPRIQEELEHLNQASEEINQVELQLDEA RTTYRRILQESASV |
| 12569 | 26470 | A | 12689 | 157 | 488 | REFVSQGGSHLKAQVRLEALLLTIGTPP WAHLSILHMTAMGQRENKREAASSRIQV LLNHSQAIKQESIILFFEMESGVWPRLQ YSRMISASCTLFLSGSNNSPVSAPRI |
| 12570 | 26471 | A | 12690 | 514 | 3 | PSIRAGLLCGSAENATPFLCGITMAAGP LYTYPENWRAFKALIAAQYSGAQVRVLS APPHFHFGQTNRTPEFLRKFPAGKVPAF EGDDGFCVFESIAIAYYVSNEGLRGSTP EAAAQVVQWVSYADSDIVPPASTWVFST LGIMRHNKQATENAKEECMRPLRVSSLV GP |
| 12571 | 26472 | A | 12691 | 304 | 4 | AESLRVAHERLDTRSTSSDIFNFPQTQS NLEMNSEILESWANYQSSTSYSINTELS LFSKVNGKFSTEFQRMKTLQVKDQAITT RVQVRNLVYTVKINPL |
| 12572 | 26473 | A | 12692 | 221 | 2 | VGPATRDLCFADEPVVGRQKQKQWWWVL CLSPNRGLAGRPDTLHITCASAHMRTHT CMHTHRHAHAHVHTHCI |

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|--|---|----------------|--|---|---|--|
| 12573 | 26474 | A | 12693 | 3 | 205 | YMLCSILSTQEAFSICLGEKFIYLFTYL |
| | | - | | | | FRDGVSLLLPRLECNGVILAHCNLRLGD RARLHLSKKOK |
| 12574 | 26475 | A | 12694 | 233 | 3 | IMGPAHLFKGNHWNGGWGLMYKAFFFLF FFKTGSHSVAQAGTIPVHCNLRLFGSSD SPAPASRVAGNTNVPHHTLY |
| 12575 | 26476 | A | 12695 | 408 | 3 | PAREMEKFRVCVRKRPLGMREVRRGEIN IITVEDKETLLVHEKKEAVDLTQYILQH VFYFDEVFGEACTNQDVYMKTTHPLIQH IFNGGNATCFAYGQTGAGKTYTMIGTHE NPGLYALAAKDIFRQLEVSQPV |
| 12576 | 26477 | A | 12696 | 123 | 631 | REAVQGGKGSGGGFGSRDSRSSGAVSAA VGDMGDPGSEIIESVPPAGPEASESTTD ENEDDIQFVSEGPSRPVLEYIDLVCGDD ENPSAYYSDILFPKMPKRQGDFLHFLNV KKVKTDTENNEVSKNHCRLSKAKEPHFE YIEQPIIEEKPSLSSKKEIDNLGASDCW D |
| 12577 | 26478 | A | 12697 | 429 | 629 | LALLYPLKWVGKPVNFMEEDILGPLPPP LNEEEEEAEEEEEEEEEENPVHKIPDS HEITLKHGTKT |
| 12578 | 26479 | A | 12698 | 158 | 404 | LPLLSVERLVEIYAYTFIQDLFSASNIP YSSSVFRIEMDQPRTHSGPTTASNPAPS STNSSSAPSATNSKQERSSSSLSKPS |
| 12579 | 26480 | A | 12699 | 185 | 3 | HRRPISIPSSVIHPAMVRLGLQYSQGLV SGSNARCIALLRALQQVCPILLSLMIQP HLVY |
| 12580 | 26481 | A | 12701 | 181 | 3 | TVWASMFLSAALRARAAGLAAHWGTHVR HLHKPDMQNGAGGALFVHRDPRENNRDT PCI |
| 12581 | 26482 | A | 12702 | 373 | 1 | ILVQERDSQRVIRMIDKLVSSRDRVGRG VEKQMTDHRVIYSVRKLQKRITPEPFIP SRTTPKLLFLLVLPSGKTPGHPVSSRTI PEPPLPTEPLERIPEHPVPSGTIPKPPE PPLPIEPHETMY |
| 12582 | 26483 | A | 12703 | 272 | 508 | TKLGKKQNRKTGNSKQQSASPPPKERSS SPATEQSWMENDFDELREEGFRRSNYSE LREDIOTKGKEVENCEDNLEE |
| 12583 | 26484 | A | 12704 | 341 | 1 | VPQHPHRPLAPPSLGPQSWPLMEGSRPR SSLSLASSASTISSLSSLSPKKPTRAVN KIHAFGKRGNALRRDPNLPVHIRGWLHK QDSSGLRLWKRRWFVLSGHCLFYYKDSH V |
| 12584 | 26485 | A | 12705 | 187 | 365 | WEPSCRGPSAFKPTRCQSYDWACMCGAE GRSAMEQPQEESPEVREEEEIEEMAHAE GTP |
| 12585 | 26486 | A | 12707 | 238 | 596 | LWLVRVKYSIMSGAALGLEIVFVFFLAL FLLHRYGDFKKQHRLVIIGTLLAWYLCF LIVFILPLDVSTTIYNRCKHAAANSSPP ENSNITGLYATANPVPSQHPCFKPWSYI PDGIMPI |
| 12586 | 26487 | A | 12709 | 131 | 2 | DRVSLSPRLECSGTILAQPSRLKQSSHL SLTGSWDYTHAAPCI |
| 12587 | 26488 | A | 12710 | 151 | 2 | YRQGLILLPRLECRVMIMALCNFESPGL SDPLTSASRVASTTATCHHTC |
| 12588 | 26489 | A | 12711 | 151 | 1 | NFPEFDHFTVGCLRAGSSLIHYWWECKL VQSLWKAVWRFIKDLKIDLPLY |
| 12589 | 26490 | A | 12712 | 28 | 411 | RVVPARPAGEPREPHVSWVMKLNPQQAP |

| GSTLEHCTSTREVSSITLETIAGE ETHWOLCAFEGELOUPSVTEKYFLL MYRYRCLYTYPSAM MYRYRCLYTYPSAM STRENTFYSELPLGLOKGQVLTVDIG GTAINTYGKSSKMLCHIDYRKRWILQ RIFIGTFKAFDKHMMLLICCDSFR ROSEN ROSENTERIAL | SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|--|---|----------------|--|---|---|--|
| | | | | | | | GSTLRHCTSTRKVSSDTLETIAPGHDCC ETMKVQLCAFKEGLPVFDVTEKYFLLPR |
| 12592 26493 A 12715 200 1 TITKVCVPTRTCGLKGSLMAKALFDQ | 12590 | 26491 | A | 12713 | 351 | 675 | ENPRHTFIYSLPLGLQKHQVLTVDIGFG GTAIMTVGKSSKMLQHIDYRKRWILQDG RIFIGTFKAFDKHMNLILCDCDEFRKIK PKNAKQPEREEKRVLGLVLLRGEN |
| 12592 | 12591 | 26492 | A | 12714 | 326 | 457 | ACSHHQRKSQAPPPAHLWPDCPHPGSLP LLNPSVCNPGREVSPT |
| | 12592 | 26493 | A | 12715 | 200 | 1 | TITKVCVFTRTCGLKGSLMAKALFDQRK DRESETECQVWWLTPVIPALSEAEVGGL |
| 12595 26496 A 12718 1 472 SPATLPRLAILPYLLFDWSGTGRADA LMYNFTI IIHLPRIGQOMCEVGSQVDQ FLSYDCGSDKVLSMGHLEEQLYATTA KQLEMIREVQQTIRLELADTELEDFT GPLTLQVRMSCECEADGYIRGSWQFS GRKFLLFDSNKRWTVV GRUTHER GENERALLY SPECIAL GREFTLE GENERAL GREFTLE GENERALLY SPECIAL GREFTLE GENERAL SPECIAL GREFTLE GENERALLY SPECIAL GREFTLE GENERAL SPECIAL GREFTLE GENERAL SPECIAL GREFTLE GENERAL SPECIAL GREFTLE GENERALLY SPECIAL GREFTLE GENERAL SPECIA | 12593 | 26494 | A | | 208 | 405 | KKERENKKHTNKKGRKKMVHICQWHSSL HRKFQGIYRKTTGTGWAQWLTPVIPALW EAEVGGPPEV |
| LWYNFTIIHLPRIGQONCEVQSQUDQ FLSYDCGSDKVLSMGHLEEQLYATDA KQLEMLREVQQRLRLEELADTELEDFT GPLTLQVRMSCECEADGYIRGSWQFS GRKFLLFDSNNRKWTVV | 12594 | 26495 | A | 12717 | 157 | 3 | AKETPTHKGSCKKKFFFFFFETESRSVA QAGVQWRGLGSLQAPPPGFTPCI |
| QRCVREGAVLYISPSGTELSSLEQTR. LLSBGTCKCGLECPLNVPKVFNFPPL VTPGGAGVGPASEEDMTKLCNHRKA MATLYRSMETTCSHSSPGEGASPQMF VSPGPPSARPPCRVPPTTPLNGGPGS: PEPPSVQACI 12597 26498 A 12720 369 3 AAKIIPATRKKASLELELPSSPDSTG: PKATISDTNDALQKNSNPYITPNNRYGONGASYAMHFEARKSQLIKCMECGSS: TLQELTAHMWVTGHFIKVTNSAMKKG: IVETPVTPV 12598 26499 A 12721 230 3 KFFWLAGLTGKNSDASASLNQVHIS: LFSRHHPFSLGPLSSPVLLQGSKRQ: ATLRALESASLSQHPVVPV 12599 26500 A 12722 26 110 RECYAEGMRGPAPGKKTSGLQQKNVI 12600 26501 A 12723 224 1 WQNQDQASDPRVSFTSQCCLSFARL RYGDVFQIRLGSCPIVVLNGERAILQ: VQQGSAFADPAPASFRV 12601 26502 A 12724 120 530 KKVARGRSRSRERSRRRSPKAIT\] T*GTRCTPRRWRSTVLGMRSCTRAR*K RSGLSRGHTRSAGLCDHGSVRAGSGD DGTGGGDRLGLGRDSLLLSSQSAA: SSASGSSFFSATQPLRMLLEYFWL 12602 26503 A 12725 434 222 KEEKSRGEVKEQD*EKDREEEVEKSRI RRRSRRRRRSEV*YRKGKRRRERED: VABRSHRSFRNSIPSTL 12603 26504 A 12726 268 370 SNILIHMESMFFFFGTDTSSV*KNLP; KTPGPDGFIDKLYITFRGELTTFPHI H*FTEGAVLPNSFSK_AASITLTPKPI DIMRKENYSPISSYIWNQCSFFLEQII | | | | | | | In |
| PKATISDTNDALQKNSNPYITPNNRYG | 12596 | 26497 | A | 12719 | 537 | 1 | QRCVREGAVLYISPSGTELSSLEQTRSY LLSDGTCKCGLECPLNVPKVFNFDPLAP VTPGGAGVGPASEEDMTKLCNHRRKAVA MATLYRSMETTCSHSSPGEGASPQMFHT VSPGPPSARPPCRVPPTTPLNGGPGSLP |
| LFSRHHPFSLGPLSSPVLLQGSKRRQ: ATLRALESASLSQHPHVPV | 12597 | 26498 | A | 12720 | 369 | 3 | AAKIIPATRKKASLELELPSSPDSTGGT PKATISDTNDALQKNSNPYITPNNRYGH QNGASYAWHFEARKSQILKCMECGSSHD TLQELTAHMMVTGHFIKVTNSAMKKGKP IVETPVTPV |
| 12600 26501 A 12723 224 1 WQNQDQASDPPKYSFTSQCCLSFARLE RYGDVFQIRLGSCPIVVLNGERAILQ; VQQGSAFADRPAFASFRV 12601 26502 A 12724 120 530 KKVARGRSRSRERSRRRSRPKAIT\T T*GTRCTPRRWRSTVLGMRSCTRAR*(RSGLSRGHTRSAGLCDHGSVRAGSGD) DGTGGGDRRLGLGRDSLLLSSSQSAAI SASGSSSFFSATQPLRMLLEYFWL 12602 26503 A 12725 434 222 KEEKSRGEVKEQD*EKDREEEVEKSRI RRRSRRRRRSEV*YRKGKRRERED VAERSHRSFRNSIPSTL 12603 26504 A 12726 268 370 SNILIHMESMFFFFGTDIPSV*KNLPZ KTPGPDGFIDKLYITFRGELTTFPHI H*FTEGAVLFNSFSK\AASITLTPKPI DIMRKENYSPISSYIWNQCSFFLEQII | 12598 | 26499 | A | 12721 | 230 | 3 | KFFWVLAGLTGKNSDASASLNQVHISPF LFSRHHPFSLGPLSSPVLLQGSKRRQLL ATLRALESASLSQHPHVPV |
| RYGDVFQIRLGSCPIVVLNGERAILQ: VQQGSAFADRPAFASFRV | 12599 | 26500 | A | 12722 | 26 | 110 | REQYAEGNMRGPAPGKKTSGLQQKNVEV |
| T*GTRCTPRRWRSTVLGMRSCTRAR*(RSGLSRGHTRSAGLCDHGSVRAGSGD DGTGGGDRRLGLGRDSLLLSSSQSAAI SSASGSSSFFSATQPLRMLLEYFWL 12602 26503 A 12725 434 222 KEEKSRGEVKEQD*EKDREEEVEKSRI RRSRRRRRSEV*YRKGKRRRERED: VAERSHRSFRNSIPSTL VAERSHRSFFFFGTDLPSV*KNLPA KTPGPDGFIDKLYITFRGELTTFPHII H*FTEGAVLFNSFSK\AASITLTPKPI DIMRKENYSPISSYIWNQCSFFLEQII | | | | | | | |
| RRRSRRRRRSEV*YRKGKRRRERED: | | | | | | | |
| KTPGPDGFIDKLYITFRGELTTFPHII H*FTEGAVLFNSFSK\AASITLTPKPI DIMRKENYSPISSYIWNQCSFFLEQII | | | | | | | |
| | | | | | 268 | | SNILIHMESMFFFFGTDIPSV*KNLPA* KTPGPDGFIDKLYITFRGELTTFPHILL H*FTEGAVLFNSFSK\AASITLTPKPNY DIMRKENYSPISSYIWNQCSFFLEQIFP LSFKLNCPGLIIPH |
| | 12604 | 26505 | A | 12727 | 103 | 636 | VCFISMKQPHGSRHPPCS/PPRPGS*VC QQSRPLGPQPSAFGQLA*HRRGLLGLQG |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|---|--|
| | | | | | | PGPAPRHGGHSWLLK*LVCAQPPPRP*S *ASQAVFTLQVPGKPQVWTPCPVPVRAP TP\PLSNGGLGVSERH*DGH*QAPTSP* PRCQGGAGEGPQ |
| 12605 | 26506 | A | 12728 | 1193 | 1638 | GLGFAMLPRLALNSWPQGDPSVPASRAA GTRGVHRHTQLQVSFNYYKVLAMHSGSQ L*SQHFRKPRRSDHLRSGVRDQSGQHGE TPSL/LKNTRISWAWWHTPLVPATREAE ARELPE\PGRQKIASEPRVKPICTASLG NTCETPPQKK |
| 12606 | 26507 | A | 12729 | 304 | 101 | RHLHWPCPSPLAPTPDISHCPEPPKSQT SP/CPGT*CLGFLKCPSSCHFA*K/PLH PSEPARKSLAPDTCP |
| 12607 | 26508 | A | 12730 | 91 | 264 | SQRSISGLRVKENLIFVMIMFPPIYSSQ TFWSQTFLMLKIVFMGISISICYIL/NT EKNLGQGWWLAPIIPALWEAEAGGLL*L RVKENLIFVMIMFPPIYSSQTFWSQTFL MLKIVFMGISISICYILKLRKI |
| 12608 | 26509 | A | 12731 | 1026 | 406. | LAHFRSQIFSFSHILVHFERMVLNYRYY LACVRRVVFRFLHVLAYFGRIVLKYRYF LVHFRREVFRFRHMLACFRRMVLYCYFL VLRKILLIYVTFLTYFRKVFLRHNFLRG GY*RKYFGYAPRWLSFFLYRCQCFLHYF LFYLWLRLHLQF/CCFVVSFCLFDFLFL FSAACVFSVLQIAIVMFPFHALQLFFF* VVLCFSNSRFQ |
| 12609 | 26510 | A | 12732 | 1508 | 157 | QDVGGSGFKVDTHPRGRMASIFSKLLTG RNASLLFATMGTSVLTTGYLLNRQKVCA EVREQPRLFPPSADYPDLRKHNNCMAEC LTPAIYAKLRNKVTPNGYTLDQCIQTGV DNPGHPFIKTVGMVAGDEESYEVFADLF DPVIKLRHNGY*PQG*LKHTTDLDASKI T\QGQFDEHYVLSSRVRTGRSIRGLSLP PACTRAERREVENVAITALEGFKGDL\A GRY\YK\LSEMTEQDQQRLIDDHFLF\D KPVSPLLTCAGMARDWP\DARGI\WHNY DKT\FLIWINEED\HTRVISMEKGG\NM KRVILSR\FCRG\LKEVERLI\QERGWE F\MWK*AP*EYILT\CPSNLGT\GLRA\ GVHVRDPQSFSQDPTAFLKILEKPRTPR KRGHKVVWDIAA\VADVYD\ISNIDRIG RSEGEL\QUIVIDGVNYLVDCEKKLERG QDIK\VPPPLPQFGKK |
| 12610 | 26511 | A | 12733 | 261 | 487 | TGSETDCAKPQASFLPREVPTVAEMKME LLKNKQFW\RGVVAHACNPSTLGGQGGW IT*GQEFETSLANMAKPHLY |
| 12611 | 26512 | A | 12734 | 382 | 668 | YKRITDIFVDSETVHILINKRQSCRIPG FIQLVQLISHQLAAPRDYTVSHSVAQAG VQW/RNLGSLEPLPPGFKRFLCLS*HAL KNLSSCDTPPQY |
| 12612 | 26513 | A | 12735 | 401 | 27 | GDRAEESAEPRAWSHSDNSHRYTTLFIC LTHTHVHNPVHS\HTHTHTHTHTHTH TVSHRHTETPPLLLKQTGLKFY*NSRDD TPRSRPGSSGLQRLSSSPPVPFQPGTVE ASADFCGHDLLTT |
| 12613 | 26514 | A | 12736 | 202 | 182 | KYLPIFINLITMNILFFFETHSCSVGQA EVH*S*LKPMPPG\SSDSPASAFQVSGI |

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|--|---|----------------|--|---|--|--|
| 12614 | 26515 | A | 12738 | 319 | 2 | TGSPSSSWLIL*FFLKIGFTKKG QNTPPHIYEYIPRVDAFLLFLEMSYSVY VVAVLSPLYFVNKLALTLHCRLALNSFL HKIQEPS\LGSGSG\PLSCNTII*RLCL |
| 12615 | 26516 | A | 12739 | 1363 | 2000 | RSLHLVFRSLWILPICDSSSVF DRVFVIPGWKCSGTIKVHCSLDLPGSSN PSTSAP*VAC\ATGTYPPCPGLNFLYF* MEERGFTQVA\QAGSQNSWGSKPNGTSE ASPKVLGMNKP*NLPNPGRSILN*DGSI RYKDNYPA/WEPPKRSYKCLRQKKSI*L SAGPRDYEASQPRKNYPISSLLTFCTSS LHFNPTELTCSSQLQKSIRRKLKSEESC PPLPACSLKHTQAIIKITF*RLHRTA/L FYLLK*NCFRN*S**KYFLLSVSNLKI/ QWVRSSLHPGAPGYTPTV*RPKHKSNVL I*IQS/ITRCLFYILVYMRTIFPLQLFL SKHPSTYKEDFA*VLPLSFFFFEMESRS AARRSLSSLQPLPPRLKRFSRLSLLSSW DYRCAPPGLASPSILSS*GSCCSIQFIL RMSTISHAINVLVLKNTYLVLVSASEHS LIKKPC |
| 12616 | 26517 | A | 12740 | 1696 | 743 | GGQIMRSGVHDQPDQHGETLSLLKIQKS AGPGGMHL*SQLLRRLRQENRL\NRGCS EPR/SRHCTPAWATEQDSVSKKIKK*KK *NHLESKQQGQPALEPPEQAGGQLRKTE QLQDGRRELAADMTL*PGHSKRLGALPR PLLSAYYFNKVHAARRQAYLETPGTFTS YQREEGEQALILGVEAQASSPTVFHRER RQSQALCSHRKSQEAPVRPAHPPRRVPG LGKPSSQGLSAHLGQDRAPAPRRASWDQ RSQAPISVTFPSVLDKEESVPCGPGFPG HAPAPRGIHGATWEGAHSRGYPGHFLAL PQHNSDEQRPN |
| 12617 | 26518 | A | 12742 | 2473 | 445 | RGARRSRRRSRHRRRRHQSRPVRAAPRQ PEQGRRRGAPTHGPQLIMMDLELPPPGL PSQQDMDLIDILWRQDIDLGVSREVFDF SQRREYELEKQKKLEKERQEQLQKEQE KAFFAQLQLDEETGEFLPIQPAQHIQSE TSGSANYSQVAHIPKSDALYFDDCMQLL AQTFPF\VDDNEVSSATFQSLVPWYSPG HIESPVFIA\TNQA\QSPBTSVAQVAPV DLDGMQQDIEQVWEELLSIPELQCLNIE \NDKLVETTMVPSPEAKLTEVDNYHF\Y SSIPSMEKEVGNCS\PHFLNAFEDSFSK HPLHKNDPNQLTVNSLNSRM/PTVNTDF G*WNFILVF\MAEPSIRQQAWPSPATLS HSLS\ELLNGAHGCFLDLFTL/CKAFNQ NHPEGTA\EFHGF\DSGISLNTSP\SVA SP\EHS\VESSYGDTLLGLSDSEVEEL DSAPG\SVKQNGS*NTMYSSSGDM\VQP LSPSQGAEHFTCMDAQCEHTRGKDLPV \SPG\HRKNPISQKDKHSSPLGGLISQR DEL\RAKAL\HIPIPCRKKSFNLPVG\D FNEMMSKEQFNEAQL\ALIR\DIRREGV RNKS/AAASGICRKKENWENIVELEQDL DHLKDEK\EKLLK\EKGENDKSLH\LLK KQLSTLYL\EVFQHAYRDEDGKPYSPSE YSLQQTRDGNVFLVPKSKKPDVKKN |

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|--|---|----------------|--|--|--|--|
| 12618 | 26519 | A | 12743 | 6 | sequence 457 | RPRNRPGIRVDPRVRGRVGHAPHEGLVP ERMYRGSPTACETQAAA*ERAFGPSSPT C\RLPIPRMSTSVPQGHTWTQRVKKDDE EEDPLDQLISRSGCAASHFAVQECMAQH QDWRQCQPQVQAFKDCMSEQQARRQEEL QRRQEQAGAHH |
| 12619 | 26520 | A | 12745 | 297 | 12 | QERPVRMLVLHFGRLRLADHLKLGVRDQ PGQYGETPSLLKIPKLSGM\MWAP*IC |
| 12620 | 26521 | A | 12746 | 98 | 428 | YNTSFNETVLLLTTPITIDCLYTRKDAI APESACGVCPCSLLGVGA*IPKVVIRLD LSKKHVTTAYGGFMCAKCVLDRINRAFL IDEH\KIVPKV*KALSQSSKAFCEHET |
| 12621 | 26522 | A | 12747 | 3 | 638 | LWLWSLCWVWAVSLPLQFILGSLHPCQG QASWREVDLLHEGSQEASSKPSSGSVPV GLLLDQEMVTPLLVCICGILLHQEMVSP LLVYTRGILLHQEMVTPHPGLYPWDSPP LDGHSPPGLF\RGAAPPS*GG/PLPVLV YTRGAAPPSGDS\PPPGLYPWDT\PPS GDRHSPPGLYPWDTPPSGDGHSPPALYP WDSPPSGDSHSPPGLFPRG |
| 12622 | 26523 | A | 12748 | 2 | 333 | DMVLLCHPGWSAGSI*KKTKERERMMNL HR**IDRERERERERQIQ*KE*KRINEF EGSKERFTQSVKQRNK/ELEKIRTLDTS ETIYLSIYRN*SLRRGQERRTERERMRH |
| 12623 | 26524 | A | 12749 | 30 | 333 | KTSYLLPVQWWAQNDNERYSSSKNTIMA LPLPLPVFPRSPSDAERKLDCSAAISAH CNLPA\DSPASACRVPAIAGARRHA*LV FGFFWWRRRFAVMAGLVS |
| 12624 | 26525 | A | 12750 | 231 | 39 | INDLL/CLF*FKKLIWGRVW*LMPIIPA RWEAKAGGSFEPRSLKLQ*AMITPMYSS MGGREQDPVS |
| 12625 | 26526 | A | 12751 | 49 | 273 | HLQVTEVFWFVVCVFFRRWGGSHCV/AQ AGV*WLFTGTVVPCCSPELLGSRDPPAS AS*VAGTTGACLAANCRGF |
| 12626 | 26527 | A | 12752 | 505 | 897 | SYLRVQFYSAFSLFFRHEVLPCHTGWNA VV*SQLTTASN/CLGPSNLLKAPHLAN* KKIF*RQGLSMLPRLVLNSWPHMILLP* LPE*LGLQARATAPGSGFTFCLTQDSIL MCSPTVHKLSDSIALETKQ |
| 12627 | 26528 | A | 12753 | 335 | 542 | CCNEFFLSQVWWLMPVVPATR/SAEAGG LPGPGSQRLR*ARSKPVNSHCSAGGRCG IDPISIKQQKNNNR |
| 12628 | 26529 | A | 12754 | 356 | 72 | WHEYYLLMEHTKKCHLS*GLYNGLNN*Q /WCTHPVVPATWEAKAGESLEPRSSRL* CTMITPANSHCPPAWATARSCLNQSINQ SSNNWQGMITGGK |
| 12629 | 26530 | A | 12755 | 340 | 127 | NYLFIYFRDSLTMLPRLECSN*FTGSII VHITLKLLGSSLP/ASASQVAGTTGTRH HVQLSNYFKIKIKPKP |
| 12630 | 26531 | A | 12756 | 290 | 511 | KKNQPGT/CGSRL*SQRFGRLRQADHL\ DQLGQHGKAPSL/LKNTKISWALWRTPV FPSSQEAEMEELIEPTSSRLQ |
| 12631 | 26532 | A | 12757 | 254 | 549 | YPGAKKQRPGGDSVRGTHLQSRCWCVLL HNCQ*PKSNTQTFP*PKNLRE*NAT*KS TDL/WPGAAAHLCNPSTLEG*GEWIT*G QEFETSLGNIPRPQIY |
| 12632 | 26533 | A | 12758 | 617 | 451 | NKKRRGLTLLSRLKCNGVIIAHCSLKYP GSSEPPTSAF*VAGITY\GT*HHAWAY |

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|--|---|----------------|--|--|---|--|
| 12633 | 26534 | A | 12759 | 91 | 393 | KWYTKECLYLLVSIFSRYLLSIYYREVL AQTLGKLSKTVMCPALEETVAVNGLQIK SKK*/WLGMVTHACDPSTLGG*GGWIAW GREFGTSLASMAKPCLC |
| 12634 | 26535 | A | 12760 | 10 | 221 | QSHNTNGCLDLHFQKGPWQSVGETLNL* TIFLCVCVCVCVCVRHVYHM/CYIYSDF ICPSIECEYFSFAHR |
| 12635 | 26536 | A | 12761 | 309 | 55 | IIRYKNYISIKLEGWKRLYHATTHEKKV GVAVLISEKVDFRAKN/MYQDKEGRFLL *R |
| 12636 | 26537 | A | 12762 | 640 | 896 | TIVLKCNFVLFCFRDEVPLCCPGWSAVA /QSQTQLW*TTQPGLKQSSCLSLLSSWN *RHVPPHLAMFLKTTFTLLYTCGHLETN IC |
| 12637 | 26538 | A | 12763 | 1 | 357 | IVPLHSSLGDRVKPHLLKKKKTCSTSLV IRETQIKITRYTYSNG*S*RKNKAGNNK CWHGYTATGTLIAD/CKSKQMLWKTF*Q FHIKLNIHY*YNSEIQFLGLYPRDKNIA RCGGLRL |
| 12638 | 26539 | A | 12764 | 129 | 320 | RWKCVKLKNTGQAWWLIPVIPALWKNQ\ AEGSLEARSLRLQ*TLIAPLGYSLPG*W SGTLSLNK |
| 12639 | 26540 | A | 12765 | 617 | 435 | GVKGLILPKLQKLLKSIE/I/E*KLPKS FYDASLTMIPKLHKD\RPISHVKIEARI LHKISINII |
| 12640 | 26541 | A | 12766 | 243 | 5 | QKTKKRIKKNKQNL*EIWDYVK*PNL*I IGIPERGEKVYNTENIFEGIIQ/ESVPN L/AYLVREVDNQIQEIQRTPVRYYTK |
| 12641 | 26542 | A | 12767 | 101 | 16 | RTQLFVSVFWFCFLFCFETGSCSITQVG VQWCHLRSLQLPPPP\GSRDSPPPSSQN RG*TNI |
| 12642 | 26543 | A | 12768 | 362 | 92 | RVPHMDLGEECTSPYMYI*PMTCVFKHG *DGNFCVTYFATIIIYTYI/YLSVCVSI *I*CYLCVCVYIYIYIYIYIYIYIYFIYKY MKERRL |
| 12643 | 26544 | A | 12769 | 1161 | 824 | QAKDLSTHFTKENM*MG/NKQMKRLSES LVISEMQIKTTMRSHLTHTRITIIKMTS DKICP*RCG*MRA/LLQC*WKYKIVSPL WKIVWPFLKT\INMNISCNLMILFLGFY PIY |
| 12644 | 26545 | A | 12770 | 241 | 237 | K*RIWA\GVMAHACKPSTLAGCDGWIA* SQEFETNLSNTGRPCLYER |
| 12645 | 26546 | A | 12771 | 326 | 6 | DTVSRKNKSGKIFQLSSRV*IYERSQSG VKVYKCKTFGKAFTQ/HF*AHMRMYTGE KPYKY*ECGKFFILVLLLLMIQKYFHL IKIVRLYLIRKKVSCKQPSNKILQS |
| 12646 | 26547 | A | 12772 | 413 | 1 | KKTFYFFFFETTQAGV**CDHNSPWP*P P\GSDNPLTSAS*MA\GLQSCMHHHAQL S*FVFLEAGSHYVAQTDGDSPTSASQSA GITAVSHHTRPILYILIVLSYAISFFSI LYSAYFLQPHLPIHNNFLFSYISSSC |
| 12647 | 26548 | A | 12773 | 2 | 1055 | FFFFLRLNLTLLPRLE/CVILAHCNLHF PG*SNSPASASRVAEITGSRHQARIIFV FLVEMGFHHVSQAGLE/SPDLK*SAHLG LPKC*DYRRDITPGHH*SF**RYFLKTY ISRVL/WCSLLGTFMFMIAFDHM*TW*H *QNHFHFLLQIWKLISERLRSAQGQQAL KTVTSTFSSKYVCRAFLAEPGWIAILYV |

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|--|---|----------------|--|--|---|--|
| | | | , | | | RQQVLLTG/PYHLFSARPSSCGSDKKAR ELNLSLSL\CFFFFGKRVSGTQAGVQ*H DHSSLQLWPSRLKQCSHLSLLSSWDYRS ITPHLANF/CNFLSGWSRTPGLK |
| 12648 | 26549 | A | 12774 | 315 | 98 | FRCFLNSINPLESPHVRKTCAGRAQWLA PVIPPFWEAEA\SQMPQVIHSR*LEARS SRPAWPTWQKPCLKYKN |
| 12649 | 26550 | A | 12775 | 275 | 59 | NPSPYKIQKISWAWWYMPVVLATR\RLQ *AEIAPLHSSVGDRARPCLPKKQKTNKQ TKTSGEPVLVQGPATVC |
| 12650 | 26551 | A | 12776 | 73 | 381 | SLLNSELSSIPRPTWESPSTSDSAWPMQ NLASEPLPLP*TTPPPDFPALSA/PE/P LPFTPSPRDTLPPPLSPSYKQAPVLSVH PPVMPLKYVPSSPLLLSFLYL |
| 12651 | 26552 | A | 12777 | 274 | 342 | LNCVIA*WLMPIISALWEAEVGVSFA/P /RSLRPAWATW |
| 12652 | 26553 | A | 12778 | 2 | 478 | TIYYTKYTTFRVPNLGLQLLTAFFCVCV CVSLNGFKNAKDYGGSHLKYSVYITGFL LQFSLKFDCFLCVCVCVFP*MA*KMPKI M/RGSHLKYSVYMT*FLF*FSLKLKYFC DPILRKRI/WPGAMAYTCNPSTLGG*GG QIT*AQEFETSLAKVVKPCLY |
| 12653 | 26554 | A | 12779 | 680 | 453 | SETDWRKNKFFPSNFPSNLRTNSWTNSC SKKTFKKH/RVGLGVLAHTCNPSTLGGR GGWSP*GQEFENSLTNMVNHFS |
| 12654 | 26555 | A | 12780 | 59 | 487 | SLHKHPERGLQSFQGCWTQEMLGGSHVQ QRAWELCAPPNLTCPGYLSFFLRQDQAL LSKLECSGTIPAHRNPSLPSPQLKVSSH LSFPSSWNSRCTTPHQLLLLFF*DRIRL FCPSWSAVAQSQPTVT/SSLPSPQLKVS SHLSFPSSWNSRCTTPHQLLLLFFNFL* RQVFTMLPRLVSNS*VQAILPPWPPKVL RLQA |
| 12655 | 26556 | A | 12781 | 109 | 361 | LSPWHHSRNYTLIYPYTLNFWMSAFFTP KEEFFFSFPETRPHSVAQAGAHW\AIIA HCGLDLLGS\SDPPTSAS*AAGTTAIIP G |
| 12656 | 26557 | A | 12782 | 3 | 204 | LIDGSLALSC*LFCGGAIIAHCSLELLG LGQ\SPVSATRVAETTGVCHHAQLAFVN LHLRTRSKHCGH |
| 12657 | 26558 | A | 12783 | 2357 | 6366 | LTGS\NSHITILTLNI/NMGLNAPI*RH RL\ANWIKSQDPSVCCIQETHLT\CRDT HRLKIKGWRKIYPSPMGKQKKKAGVAI\ LVSDKTDFNPTKIKRDKEGHYIMVKGSI QQEBLTILNIYAP\NTGAPRFIKQVLSD LQRDLDSHTLI\MGD\FNTPLSTLDRST RQKVNKDTQELNSALHQADL\IDIYRTL HP\KSTEYTFF\SAPHHTYSQNWTTIVG SKALLSKCKRTEIIT\NYLSD\HSA\IK LKLRIKNLTQNHSTT\WKLNNLLLNDY\ WVHNEMKAEIKMFFETNE/NKKTPTYQN FWDAFKAVCRGKFI\ALNAHKRKQE\RS KIDTLTSQLKKTREAKSKQHSKASRRQE ITKIRA\ELKEIETQKKTLQP\LKKISE SRSWFF\ERINKIS\RPLARLIKKKREK NQIDTIKNDKGDI\TTDLTEIQTTIREY YKHLYA\NKLENLEGMDKFLDTYVSLPR |

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|--|---|----------------|--|---|---|---|
| | | | | | | LNQEEVESLNRP\ITG\SAIVAIINS\L PTKKSP\GPDGF\TAEF\YQRYKEELVP \FLLKLFQLIEKEGILPNSFYEASIILI PKPGRDTIKKENFRPISLMNIDAKILNK ILAKRIQQHIKKLIHHDQVGFIPG\MQG WFNIRKSINVIQHINRAKDKNHMIISID AEKGFDKIQQPFMLKTINKIGIDGT/YY FKIIRRAIYDKPTANIILNGQKLEAFPL KTGTRTGMPSLTSPLLFNIVFCPIVFWA R\AIRQEKEIKGIQLGKEEVKLSLFADD MIVDLENPIVSAQNLLKLISNFSKVSGY KINAQKSQAFLYTNNRQT/EEAKS*LMS ELMSELPFTIASKRIKYLGIQLTRDVKD LFKENYKL\PLIKEIKED\TNKWKNIFI PCLWVGRIS\IMKMAIL\PKVIYRFNAI PIKLPMTFFTELEK\TTLKFIWNQKRS\ RIAKSILSQKNRAGGITLSDFKLYYKAT VTKTAWHWYQNSMVLVPKQRYIDQWNRT EPSEIIPHIYTILI\F\DKPLLEKNKQW GK\DSL\FIKW\CW\ENWLA\ICRKLNL \DPF\LTPYTKINSRWIKKKDLNVPKT IKTLEENLGITIQDIGVGKDFMSKTPKA \MATKAKIDKWDLIKLKSFC/TICTAKE TTIRVNRQPTKWEKIFATYSSDKGLISR IYNELKQIYKKKKKTTPSKKWTK\DMNR HFSKE\DIYAA\KKHMKK\CSS\SLAIR EMQ\IKTT\MRYHLTPVRMAIIKK\SGN NRCWRGCGEIGTLLHCWWDCKLVQPLWK SLWRFLRDLELEIPVDPVIPLLGIYPED YESCCYKDTCTRMFIAALFTIAKTWNQP KCPTMIDWIKKMWHIYTMEYYAAIKNDE FMSFVGTWMKLETIILSKLSQEQKTKPR IFSLIGGN |
| 12658 | 26559 | A | 12784 | 787 | 926 | PQAIRRPRPPKALG*HNSVDLGWAWWFT PAIPTLWDYTHEPLYLAKIS*CFKKVYK FVLNCIQNCPGPHAARHS/SGKTS*V*S NYLFFSFCFETKFCSVTQARLQWHDLNS LQPPPPGFKRFSCLSLPGGWDYRRLHTR SANFCIFSRNRVSPSWPGWSPTPDLRRS AVLGLPKRWDYRREPPCPAKIYTIMAPQ KVNSHSSQPVSFLS |
| 12659 | 26560 | A | 12785 | 248 | 285 | C*VIF*CVMILYVLIYVEKITSIRLAVY VV/CIITRLFVK*ICSCLLGC*FLFFNV C*LYIFIIFVFFFFFFFFFFFFFLN ILY |
| 12660 | 26561 | A | 12786 | 243 | 37 | RRSAGHGGSCL*SQYFGRPTRADHKVRS N/RGETLSLVKIQKVSQAWW*EPVVPAT RQAEAGADAWVDR |
| 12661 | 26562 | A | 12787 | 75 | 289 | DYRHEPRFFFLYTFFEMDSHSVARAGEH WCDLGSL*PST*GSSDSSASTSR\QRH HAWLIFGFL*RRGFAC |
| 12662 | 26563 | A | 12788 | 83 | 256 | RKMYVVGLFVTAQN*K*PKYPSTEE/YI K/RLWYLHTMEYYSAIKIEKLGTRAQNR LILY |
| 12663 | 26564 | A | 12789 | 197 | 499 | QSLKSVEETVFRNNKQ/SIPTFQVILMP WWLIPII*ATWEG*GRRSPLNPGV*DQP GQHSKTPSLQKKTKFS*AWWRVPVVPA\ IGEAEVSGIPLSPERSRL |

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|--|---|----------------|--|--|---|--|
| 12664 | 26565 | A | 12790 | 394 | 91 | FYNSTKFKWKNIQFLITRCRGDQIQVIR AHAVQLGFHVLYF/CLSQNLSIYLYISI YVYTYRYIHTHMCIHII*YLYIYTYIVI KH*KEHWWIKHCFPTERK |
| 12665 | 26566 | A | 12791 | 735 | 75 | FFFRQEGFLSPPKRGGVPPPHTKKYFSP RGSFLWGWGTSRPPPRKCFSPPPPPVFL PPPKKKKIISFSPTKLAPPPEYFKSPPP PS\PPPPSSPSPSTFFFFKNFPFSPSSF SSPPFFFPSPAWEDPPVQSRRIY*FLPP PF*IPEIPR\RVLKKKPGEGRSWGLFPP PKGPKRRVPLGPEFKTRLGHKTKPRFFK KKKKKKRFLISCLWWHMPAIPSTLGG |
| 12666 | 26567 | A | 12792 | 482 | 342 | MGVFVFFFETGSHSSVTWAGVQ*CNLSL LQP/PASSDPPTSDSRVAGST |
| 12667 | 26568 | A | 12793 | 405 | 169 | FYKKKKTGSGLALSPRLECSGTIIAHCN LELLGSRSLRL\SNTPTLAS*AARTVSV CHQTHLIF*FFVETGSCYVASA |
| 12668 | 26569 | A | 12794 | 270 | 94 | YVCYSYKQIKICSHVKRRE*NTFKIYLL KYIALGLTGHFFPL*TFSKTVTLWPGAV AHACNLSPLEGQGRWII/R/GQEIKTIL ANM*IPVFLHVNIFLSVCSYSIHTTLDY LFYYSCYILISL |
| 12669 | 26570 | A | 12795 | 284 | 415 | NFIKIIKKKVMGLFYGKTFLLNLKKKKR KKK*WPGTVPHA*NPST\LGGLGGWITR GQEFETSTLATN*NPTKSISRGF |
| 12670 | 26571 | A | 12796 | 1387 | 32 | APSSFAIRSFFSGPMNAFFSSMVWKRPW PNLEVVSMNLRSIFSRARRFVCTSKDLR RVSTRFLVHLTAFLGYKAGMTHIVREVD RPGSKVNKKEVVEAVTIVETPPMVVVGI VGYVETPRGLRTFKTVFAEHISDECKRR FYKNWHKSKKKAFTKYCKKWQDEDGKKQ LEKDFSSMKKYCQVIRVIAHTQMRLLPL RQKKAHLMGDQVERGAPVPEKAD\WAPR EALSSKVLVTQVFWAGIK*SNFIGGDPR AKGYKGGQPVCWAHPRKLPPQRPHPRAL RKGGPVLGAW\HP\ARVA\FSVARRWGR KGLPFHRTEINKKIYKIGQGYLIKDGKL IKNNASTDYDLSDKSINPLGGFVHYGEV TNDFVMLKGCVVGTKKRVLTLRKSLLVQ TKRRALEKIDLKFIDTTSKFGHGRFQTM EEKKAFMGPLKKDRIAKEEGA |
| 12671 | 26572 | A | 12797 | 86 | 364 | EQDNRIFFSFLSLFFFFGETEFGPFAQG GGQGAILGPLKPPPRGL\SSFPT*GSQE VGTTGAPHDIFCFFNKKGETPRLYKKNK NNRGGGATP |
| 12672 | 26573 | A | 12798 | 101 | 440 | HCSRYATGIFEWYSGILVLILLRFGIYE PMNLNIGDPYDSPPSRLYKMRLWERMAK SLIEVSLKNSHFWLGMLAHACNPRTLRG IGGRIA*TWGF\KTSLGNIARPHLYLKK I |
| 12673 | 26574 | A | 12799 | 364 | 195 | NPPGDLGEETLLWGGEIMGTTPP*FPPP KEGFLPQDPPGGFNSPPI/QGRSFSFPP PGKFGPPQGFFKRPPPFFFFLNNNQ |
| 12674 | 26575 | A | 12800 | 86 | 489 | PTAMAEEGIAAGGVMDINAALQELLKTA LIHDGLAHGIRKATKALDKRQAHLCVLA SNGDETVYVKLVEALCAEHQINLIKVDD /NKKLGEWVGLCQIDREGKPRKVVGCSC IVVKDYGKESQAKHVIRENF*CKK |

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|--|---|----------------|--|--|---|--|
| 12675 | 26576 | A | 12801 | 64 | 211 | GNHKKSNYSLAPWWYTTVVPAT*EAEAG GSLE\L*CAMITPVNSHSSLA |
| 12676 | 26577 | A | 12802 | 300 | 3 | NNVTTGSNIQFHSFPLIRKDICVSYIKN DAWNYIKNSNPNGETQVYQ*YSFSN*NL KIWLGKVA\NPSTLGGHGGRIA*A*KFK TSMGNIVTPCLINKQK |
| 12677 | 26578 | A | 12803 | 208 | 394 | SQHFERPRREDCLS\QEGQYSEIPSVQK NVKISWAW*CMPAIPATREAEAGGPLEP RRSRLE |
| 12678 | 26579 | A | 12804 | 183 | 348 | AFILGKGKYEPYNPCLGWA*WCMPVVLA SWEAEAGG\SLEPRSSEL*CAMLIGCLH |
| 12679 | 26580 | A | 12805 | 397 | 238 | ETEFPFCCPGWKWGDLGSQQPLPPGFKR FSCFSLPSK\WGQ*SLAPVGKGCK |
| 12680 | 26581 | A | 12806 | 1 | 293 | PTRPRTSYEKQGYLLLPPVFSIVLEVLA RAISQETEIKSVQMGKEEVKLSL\FVCV YIYA*ENPVESTKTVDANLFDTRDWFHA IFPQTVGEVGMVLG |
| 12681 | 26582 | A | 12807 | 297 | 281 | AKNPRRQPREIPGGVFPTPGFPPYFKAK MPEGPFPGGFFFKGGVLWGTPPPFFFFF FFSETESRFVTR\LQCSGAISAHCKLRL PGSCHSPETC**R*G |
| 12682 | 26583 | A | 12808 | 255 | 59 | AGCSGSQLFGRPRGVDHLSPGV*DQSVQ HGEILSTKNTKISWVWWSVPVVG\EVGR SLEPGR*RLE |
| 12683 | 26584 | A | 12809 | 247 | 310 | PLHSILGTPTTPAPTPGKPLLIRTSILY *KPILSQAWWCAPLVPATQ/EAEARGSL EPRDSRRS*AMIKPVNSHCTPSWALPRP LPQPLESHC |
| 12684 | 26585 | A | 12810 | 101 | 477 | IGKEEIKLLLFPDNLMEYTVNF*MYKPL ELIS*FSKVTEYQVNTEK/SNCIYT*QL QIENEIAKTI*FMIASKSIKYLKISLTK CN\KWRDILCICIGRLSIIKVLVLPKLM CGGEKIFNPNPTGFW |
| 12685 | 26586 | A | 12811 | 1022 | 696 | CFFVLFFKEMGSHYVAQAGVRWCDHGSL YPPTP\GSSDPPTSAS*VAGTIGAHHHT WLIFKFFVETRSCFLIQAGLKLLASSYP SQPRTSPKCLGFTDVKSLHLAWLCP |
| 12686 | 26587 | A | 12812 | 166 | 143 | RKEERFQINNLGFHVEKLEKEEQI\NPK TNRKKKIIKTRV*INEIEYRKTIGK\IN KNKSWFF*KINKIDKPLAMLDSGRRDSN Y*NITKSIEEGRRRKEEAGKRKEEGRKR RRRWRQRWR |
| 12687 | 26588 | A | 12813 | 163 | 423 | KAFWEFINHKKTGPF*RGPIGKVSPPGG NLASSI*KG/DPFPSPLKGPQGSSGGPP PKKPPTGFNLAFGGLRGRETKRGPFFLA GLLP |
| 12688 | 26589 | Α. | 12814 | 2521 | 2842 | INTMYFPP*EMLVGWAWWF/RASNPQHF GRLRQADRLRSGVRDQSGQHGETPRLLK NTKISWAWWRAPVIPATWEAEAGESLEP GREGCSEPRSCHRTPVWVTRMRLY |
| 12689 | 26590 | A | 12815 | 173 | 395 | LDQPGQQRETLSLLKKKQTNKQTKKKNG FKKFL*LDTWVHTY\NPTPLGGRGGGFF *GQDFETTLANMGKRGFY |
| 12690 | 26591 | A | 12816 | 43 | 346 | CVYVS/GVCVCVCVCLASVCMYVCLH L*VLFGIFYV*DHNICKLRSFCFLFKNT FSHVYF*KIIWPGVEL*VTVFLFLSSLL HTSCVYEKSYAILIFSAL |
| 12691 | 26592 | A | 12817 | 647 | 931 | SQHFGRPRRADHLRSGVQDQPGHHGETP |

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|--|---|----------------|--|---|---|--|
| | | | | | | NRLNPGIRSCSEPGSHHCTPAWATE*DS VLKKKIGADKY |
| 12692 | 26593 | A | 12819 | 392 | 2 | PLFFFFFFLETESHSVTQAGVHNPPGP SKPPTSAP*AAGTTGMHYSAHAQ/LIFF L*TELPSCRPGCSAMAVHRHDPFTDQHG SASFLIWASSPLLRQTGDSSLLGGHHVD AKFSVDTQLALCTKAQNS |
| 12693 | 26594 | A | 12820 | 1183 | 870 | DRVSLLTPRLGVAVARNLAQWKPLPPGF KRFSCLSLPSSWDYKHTPPTPG*FH/RG *FFVFLVETGFRHASQ\AGLNSLPQSDP PTLA/FPKCW\DYR\HDHLAWPRKM |
| 12694 | 26595 | A | 12821 | 172 | 298 | IYLSIYLPI/YLCIHLSIHPSIYPYLYL SINPSYWVSFSREL*LT*L*YLSIYLPI IYVSIYLSIHPSIHISIYPLIHPIGFLF LENFD |
| 12695 | 26596 | A | 12822 | 51 | 254 | YDFLKKHLLSSYRAKDLESLFLLHLHIF SGN*SVSYICVCVCVCVCICVCVYICIL IKSWCS*S/CGVL*AICAGVGWC*LIFG VL |
| 12696 | 26597 | A | 12823 | 199 | | QPLPAPSPSAQKGRAHPTPSPARPQAE/ SLPSQSLGTRTRPPLGRPP*SPPWGQVD LWGWLGPSPTLPAPESLSPASLSTEVVL CGTRYLVWGRSGAGQA |
| 12697 | 26598 | A | 12824 | 33 | 442 | GRGKLLKKSQKQRKNALLKYDSKTRVGT LFHWTSVPVTRPLLL*INIRLIKLDVIK CSIHKIFHSEFLFFKQHSGL/CI*LSK* LCS*KIHQSGLGTVAHVCNPSALGGQDR RIT*GQEFETN*VNMVGPCLYPPLPP |
| 12698 | 26599 | A | 12826 | 363 | 75 | HWEPRPAGPTLPSAPGSPSGRPCPPHTT SG/PPPPNTHTPMSRSPWSWEGSDQRPQ PPHTDTGSPPN*GSRLRHERPPWGRERQ RPPPTTLVRPLHSH |
| 12699 | 26600 | A | 12827 | 76 | 486 | CTVNLFIYFEMESCSVVQTGVQWCDLSS LQPLIWFSCVPTQISS*IPMCCGRDLVE GP*MMGAINSFLCCSYDSK*VS/ARSDL FFFFFFFF |
| 12700 | 26601 | A | 12828 | 345 | 672 | KMKCTADLSLLEKDT*IKLEENR*QERI MLRAEVNEIENKIENINKTGGSSSEKYY- KIDNPLTRSIRRKVN\KITSIRNEKGSV TTNPTEIKRTVKEYIMKNFMPINLTT |
| 12701 | 26602 | A | 12829 | 208 | 1 | PSNSTPIFKRNENICPHKDPCTLMLMAA LFVMSKK*KQLKCSSNDE\KLWYIHMME *YIAIKRNKLLI |
| 12702 | 26603 | A | 12830 | 649 | 172 | FPLKYSLSTTSVMAPSFTSCGGSQQVLL APLSRLLAWPNV/HPPPQPRHPAPHSFL SPPRSPPNYSP*SSQGPLLQPQSKHVRP LPQANARLPSAKNPARGPPGAAQAPRDR PPA/VCPPLPPHSPLRHERAPRLFLPLP ATEPAALHAVHPGRRQERVT |
| 12703 | 26604 | A | 12831 | 1068 | 667 | KLSWFFCSRLRLHFGS1FKVPSL/PVPK LLLPIPSLCPSLPLQLQPAQPVPFNTAT WLCFC*/P*RV*PAPGYQRVGHFNFFPL QLNFIPIILQ*HLGF*KSASLSSSSSPK KVSLCHPGCSAVVRSAHCNLKLLIS*SA CLGLPKC*DYRLQSPRPP/PTIFKVTKM CLLKŞLTGSVSF KCFFLLALNWPEFILDYFILNW*NSLRT |

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|--|---|----------------|--|---|---|---|
| | | | | | | PS/TLGGSGGRIT*AQES*TSLGNIVIP |
| 12705 | 26606 | A | 12833 | 654 | 321 | LVGIRFLKVKYFNIKFPHLLAIISPSLE VFNLQHFY1YFLLF1YF*ETRSCSVA\R LECSGVIIVHCSLKLLGSSNPPALASQV AGTITAHHCAQQHFCILEKSNLCTYFPL |
| 12706 | 26607 | A | 12834 | 867 | 201 | RQMSPTLRTKSRDVASRSSFSAWAWGKL FTFWDFSMSLVSLQGPGGPFHSPQP*TQ GR*VENNQEPLATPFPGPERSLPGQPRL EPAHSGKRRGLPLEIRPPVNVSDIHGDP SGAQWLVRGVEAGPWAVGGQAP*SEGPS PSPPLDVSPDPGSSLPRSSSP*MDLRA* LSLTF*TFQKGSGN/DPASSPA\GKPG* EWRKIKGPPQGLLLGPEMWGSQARVLS |
| 12707 | 26608 | A | 12835 | 328 | 1365 | YAFCLMMLDKKQI*AVFLFEFKMVHKA AKTTQNISNTFGPGTANKHTVQWWLKKF CKEESLEDEERDMGHGKVDNDPI*EP\Y *TT*KITEELSVDYSTVIRVVQHSKQIG KVKKLDKWVPHELSGNQNYRFEV*SSFM LRNNNPFLNRIVTCNEK*ILYN/RPAQW LGPRGQLQSQFPKPNLAPKKKRSLVHW/ SPVGLLAPILDPTYSFLNP/GGETITSE KLCSGKLGKMHGKLQYLLPALVNRKGPI \LIHDNT/RDCVFAQPVLQKLKELG\YK VLPHPPYSPDLSPSDYHFC*HLDNFLQG KH/SQHGAENAFQEFVKS*STDFYATGI NK/LFSHWQKCVDCNGSCFD |
| 12708 | 26609 | A | 12836 | 7 | 328 | RRERERERERERERERERERERERERERERERERERER |
| 12709 | 26610 | A | 12837 | 219 | 350 | PFNHTYATWSIIISNVQVCFMRAQDIYL LIYLFEAGSCSVA\RLECSDMIMLHCSL DLPGSNNPPISAT*I |
| 12710 | 26611 | A | 12838 | 189 | 359 | LGLDGVMRVGPCRALGPS*EEKSSRVQW LTPVIPA/LLEAEAGGSPEVRSLRPAWP TW |
| 12711 | 26612 | A | 12839 | 368 | 77 | KNPNFLKFGSKPMGPPIYSPP\LEG*AG GFINPGF*TPPGYMGKPPFFLKYSNLPG LAAPGGCSPFPGGLGRKISFTPEMEVSI NPGSPLSLPPGEQN |
| 12712 | 26613 | A | 12840 | 16 | 173 | KTDVHSKTCTKLFTAALFLIVKKWKHLK PP*VD/EINKMWYNHIVEYYLAIKS |
| 12713 | 26614 | A | 12841 | 425 | 45 | NSFVFFFFLFENRVLTPVAPRLE\CTGV IL/APHCTLPALPEFKRFLVPSALLSSW DYRPVPVMPWLNFCIFVETGFH\HVAQS VLKLVSLKL/PSPTWDVPKC*DFRYSVR CCGLFF |
| 12714 | 26615 | A | 12842 | 237 | 375 | LLLVVVYILKKLW\LGVVAHACNPSTLG GQGGWIL*GREFETSQVNM |
| 12715 | 26616 | A | 12843 | 21 | 325 | TSFFFLESYSVAQAG\QWCDPGSLQPQP PG/SQ/DNPPTSG*VAVTTG/MHHHARL IFVFFCRDGILLYCPGRSKIIFSSCIRE LFKKISDFFLLTMLIFCNSNKG |
| 12716 | 26617 | A | 12844 | 369 | 58 | PISPLQFMLPFLKNQSPYGPFFWKKKNF PPPFLGGAVLKTPGF*NFLFKKIQRGFP |

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|--|---|----------------|--|---|---|--|
| | | | | | | PFPKKKKPRERPKPCPPKFG/SPPFFFY PGFPPPKKGPPPPFFFFFFF |
| 12717 | 26618 | A | 12845 | 211 | 409 | NALKPKIHFFFSGGGLKGIVWGNTLLDI GLHKTFFF*GDFYYAL*I*AENALFGG GGDCAPHLQVK |
| 12718 | 26619 | A | 12846 | 200 | 33 | QKTNNTKCWQGWGATGTLIHF*GEFTRV QSHWKIVWKFL*/SLNILP/PSSSSSSS SSSSSSSVKNLCLHKACTWMFIAALLLL AKTWKQP*CE |
| 12719 | 26620 | A | 12847 | 416 | 125 | KIPTRPGKGGPPLYPRPFRGLNKQIGLT PEFGTPLGNKGKSFPFFQKNKN\NWPRG GGPIGPPSPGG*VGGLTLKGEVSTKLDS PPAPPPGGQKWPLP |
| 12720 | 26621 | A | 12848 | 85 | 397 | KIHIFFIFLVSLLKGLSFLLTFSKN*VF /SFIDFLILCVCVCIEFYCFILILFHYF CLFGFCLFLMFVS*CQSLDFYFNSF/YI F*YKIQCYKF/CILIF |
| 12721 | 26622 | A | 12849 | 1 | 246 | RPRRHLVASLVLTQLNGSSPLPIKIISW AWWLMPVIPTFWEAEVGGLLEPRSSRQ* *AMI\SPCPPAWAT |
| 12722 | 26623 | A | 12850 | 161 | 1 | NKTTSSQIW*PMPIVSTT*EAEVGGSLE PRS/L/KLKCAMISPVNSHCTPTWTTK |
| 12723 | 26624 | A | 12851 | 65 | 244 | STYVLHSLPFLDISYKWNHTTC\SRYFM GALFLIAIK*KQPKRPSADEQI*T/IMW YIYTLEYDLAIKRNEILIHAATWMNLKN IMLSKRSQTQKT\HVV*FHL |
| 12724 | 26625 | A | 12852 | 235 | 34 | TTIAVSVLILKELMEP*TLQPDFLG/WS LITESVDHVQWHAPVIPALWEGEVEGLL EPRSLRPAWATW |
| 12725 | 26626 | A | 12853 | 168 | 453 | CQLRGASGTQGPGLSESQCQQPCP/PEC RPSKPRPCGCRI*SPARTSPQPSPAASM ALPTNERTPPPALKW*PK/CPKQSPQSA KSKSPVKSTERTAK |
| 12726 | 26627 | A | 12854 | 244 | 3 | ELQVYMHI*IYI/C*SIYTKANIYIKYM HMCVYIYTHTHTHVCIHLHIYLLRHGFG CWLMLGKVRGCEGMAGLMKAQQGWGW |
| 12727 | 26628 | A | 12855 | 376 | 428 | KWEPGGHTSFFFFKGLVLNFGRGVLQKT RP*GGQGGKFNPNFSGPREPPPP/PPP GGGKKGPPPPPGVFVFFLEKGGSPILPR GVLNPGAPKGVYTQRGGIKSGNQGATPL SFFLKVWF |
| 12728 | 26629 | A | 12856 | 129 | 395 | APPNTHPFLSEAPQSLSLEARPPSAPSN SSSR/PPVWRASQTHPPQDWSSHCSPPW GAPPQI*PFSDSLAHPPQDWSSHCSPPW GAPPQI*PFSDSLAHPPQDWSSHCSPPW GAPPQI |
| 12729 | 26630 | A | 12857 | 363 | 97 | GLATLRRLVSNSQAQVIRPPQPPEVLSL PKC*DYRPGRPPASLIHVNSRQT*KVAP /CSKPLAAAAHQGSPGATETTRRCPPSR CGPIF |
| 12730 | 26631 | Α . | 12858 | 322 | 361 | KSEKQS*VMLAVCTLDMMKMT\FISVVF LPKTHN/LMSNYKKNTRQIPMEGHSTIY LTRIPQNCQGHQKQ*KSEKQSQQESKKK |
| 12731 | 26632 | A | 12859 | 88 | 417 | HFTFFFFFFFKRGGGFFSPRLKRLGKN FFFLDPPPPG*RDFSPSPFKEGGF*KP/ SPPPLVFFFFF*KKKGFPLGAGGF*TSG PGETPPLYSPEVWFFYGGTPGPTPFFF |
| 12732 | 26633 | A | 12860 | 217 | 2 | LILINKLANMHCFLFVFETSLT*AGVQW |

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|--|---|----------------|--|--|---|---|
| | | | | | | HDL/GLLLRLAPPRFKQFFCLILPSSWD YRCALLHPATREDEA |
| 12733 | 26634 | A | 12861 | 375 | 145 | LSFFFFF*KPGSCSVAQAGVQWHAHSSL QLQTP\GFSDSLNSAFSVARPVRVHCHT RPLSPFNICWRARPKQKVFL |
| 12734 | 26635 | A | 12862 | 525 | 852 | NLLSIYFFETESRSVAQAGVQWCHLGSL QPLPPRF*IKKPSNTALFM*NLLSIYFF ETESRSVA\RLECSGAILAHCNLCLPGS SDSPASTSRVAGVHHHSHLSSWDYSCAP PCLANFFVFF*VETGFHYVSQDGL/DTS *PQVICPSRPPKVLGLQA |
| 12735 | 26636 | A | 12863 | 3093 | 204 | EPDKTGPVLWKVGGGARVPGMAETLSGL GDSGAAGAAALSSASSETGTRRLSDLRV IDLRAELRKRNVDSSGNKSVLMERLKKA IEDEGGNPDEIEITSEGNKKTSKRSSKG RKPEEEGVEDNGLEENSGDGQEDVETSL ENLQDIDIMDISVLDEAEID\NGSVADC VEDD\DADNLQESLSDSRELV\EGEMKE LPEQLQ\EHAIEDKETINNLDTSSSDF TILQEIEEPSLEP\ENEKILDIL\GET* RSEPVN*ESSELEQPFAQDTSSVGPDRK LAEEEDLFDSAHP\EEGDL\DLASEST\ AHAQSSKADSLLAVVKREPAEQPGDGER TDCEPVGLEPAVEQS/SVAASELAEASS EELAEAPTEAPSPEARDSKEDGRKFDFD A\CNEVPPAPKESSTSEGAD\QKMSSPE DDSDTKRLSKEEKGRSSCG\RKFLGLVG LSSTTRATDLK\NLFRQIWGRVGGAPRL WTNARSPGSFAVYGFVTMSTAEEATKCI NHLHKTELHGKMISVEKAKNEPVVKKTS \PKRGSDGKKEKSSNSDRSTNLKR\DDK CDRTDDAKRCDDESVEKSK\DKNDQK\P GPSERSRATKSRKSRGPKRTVV\MDKSK \GVPVISVKTSGSKERA\SKSQ\DR\KS ASREKRSVVSFDKVKEPRKSRDS\ESHS RVSERSEREQR\MQA\QWEREERERLEI ARERLAF\QRQRLERE\RMERERLERR MHVEHERRREQERI\HRE\REELRRQQE LRYEQERRPAVRRPYDLDRRDDAYWPEA \KRAALDERYHSDFNRQERFHDFDHRDR GRYPDHSV\DRREGSRSMMG/SIREGQH YLERH\SDPEPH\GQDSLR*LGWGYEL* Q*RLS\EGRGLPSFPPGAGRDWGDTWLE DEDDPVMGKGTAERGPMMDR\DHK\RWQ \GGERSMSGHSGPGHMMNRGGMSGRGSF APGGASRGHPIPHGGMQGGFGGQSRGSR PSDARFTRRY |
| 12736 | 26637 | A | 12864 | 2 | 456 | IHLGSGSEGDGSSGGLGRGNSNTSRFSS SSWARGDNVPRPPPPAVCSWISEGDVQN PGLGEAGAGSSTPGDGGELRY/WPGLLG A*GRGIGGDDDDLRTLGLAGVQQCGKG/ RRGPRGPGRGQEPRRPRDLGLRGPRRAQ GAA/SATAAPPP |
| 12737 | 26638 | A | 12865 | 388 | 1 | LIKMTKVKKTAITKC*RGWGRTGAFIHC SWECKMIQPLWQTVWQLLKKLNIYL\WK QPKCPLM/VKWIKKLYISMDSYSAVKKK ETLMYTTA*MTLEVALLSERSQTRKGER GHILWDSIYINFQKMQTNL |

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|--|---|----------------|--|---|--|--|
| 12738 | 26639 | A | 12866 | 198 | 3 | KKQKQTKNPPKIS*ALWCVPVVPATWGA KVEGSPE\PRRSRLQ*AMITPLHSSLCN RVRTRGRTRG |
| 12739 | 26640 | A | 12867 | 415 | 973 | NPVNCAQFSLLPTTEYMGHRVEGATGHG TCPSVPPNTHLHTGWWCLQHHRSCRAWG RGGSHTHRCPQRVPDGEHP*IYIAVHGE PP/ESPPQPSPLSCCPPQGNYIALREPP QGLPLPGTLPSHPPPFWHICKTHSSESR HPPFPGFCGLELEKGVGDFIIHPPLTLP KPLPNPLKPEPTPTPQTHI |
| 12740 | 26641 | A | 12869 | 715 | 893 | PCVAPHSIREERFRLTSESTNQKVLWWG ID*T/VILILTGNWQKRHLKSFFLGQKP GGMAP |
| 12741 | 26642 | A | 12870 | 342 | 58 | KKKKPKENEQSIWDMWDNFRTSDI*TTG VLBEQFRE*GRKIIFKEIVRENSSNLTK /QINLLTQEV*TTT/HKNMNKSTPIHII IKLMKTTTKEKI |
| 12742 | 26643 | A | 12871 | 110 | 401 | SFYSVMILKASRIVICLFT*LYAYIHTL YIYTLCIYYAYYVNIYICTHI\NIHIII HVYTYYIVYASIYYSMYSAWYNIKVSKD RQTYENIALITYY |
| 12743 | 26644 | A | 12872 | 439 | 256 | SYFMRFGGDKISKLYQFILSRRWKQSTC PSMDEWINKMWH/ITIMEYYSAK*RNEY SYMRHE |
| 12744 | 26645 | A | 12873 | 356 | 43 | GTPERHSHSHSQGSPIIGAFMGIRASFV YSLLSCVLLMLSPQRVLFYFSAFKQQS \WSGKVAQAYNSNTYGKAGSIT*GQEFK TILGNIARPCFYKKKFLANS |
| 12745 | 26646 | A | 12874 | 341 | 205 | REIKKMVLNKKFFSLQFLGKKKNFWEFF LKKKKKVFKAPPVFQF*VPIF/CSF*KK KVFGFFFSPKIFFFFFFFFFETESTSV TQEFNGTILAHCNLGLQGSSSSPASAF* VAVSQDCAIELLGDRGRLCLEKKKKKKK KKNFGGKKKSKNLFFLKRKKMGT |
| 12746 | 26647 | A | 12875 | 474 | 206 | PIRANGPVFSPPPPPPAPGTCPHPLVIM LSRHLRQSHPHTTVQPWTSGLLPSPPA* LSLETQHFKTAHFIFP*H*SSGLGPGWG SPVGEGPG/HPKLCLQPAAAAEAWPPRE GTKARRHEGLPPAPCAWGPAPRDAGSRL EFPTLPTIPVSQSPGR*HGAGGRPSCLR AFVPSRGGQASAAAAGCRQSFGDLALLP LGSPILGQGQNFSARGR |
| 12747 | 26648 | A | 12876 | 257 | 467 | YRVFTLLPRLEYIMAHCNLDLGSSDP/P QVAGTTLK*LSRASRVAGTTGVHHHSWL IFK/YFL*RRWRRFSL |
| 12748 | 26649 | A | 12877 | 867 | 1409 | GPTVLVGGQDWNSVLQQPRAHSFTPRGG AGGLGGGYVLHKPIPFSQELLGAFPCQK QYRVPPPLEAQLLRQARSPAFIY*AAVL CQAQGPSPSPCSPMVSPRPSGRAPHLGA APQSGQKALASTSSPDAEPV/SVG*WCP SNPALQGGQNGAEPRAVSITSGALSLYD CFLDGWWEGRSLGP |
| 12749 | 26650 | A | 12878 | 1416 | 740 | IRNPRWVQLDVFAAAPMGRSSPLFLLLF SFLKTVLRGSMIPSTVPS/FHKGPQACL YSLSLRS*SQAAPSPAPSSLPTPSPHPG LTQPGRGRRKADIS/CSHSWAFYVP/SL PHLPWACPLSLPQPVLFSILFCFVLF*D GVLLCHPG\WSAMARSWAHCNLHLPGFK |

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|--|---|----------------|--|---|---|--|
| 12750 | 26651 | A | 12879 | 961 | 31 | KVLGLQA PSPVRDSCVAWAGERRGRLGGSGVWRSH ARGPGLMRGLPASEPAPCVLGSRPCFRV AFETPWTSPASCMFERCPLWRPPALVAA GLDPFLLSSTLTLAVCPRDLIRSWKKGC DVCDSRNCWSTHSRPACRDAILAPILAG RGECIGLWG/AAAACTGRV/TPVSGLTF STVFDFSSARG/V*GGLPRSTGGFRVRG PGQPVPLPGLPAGVALAPLEGRPQEPAP ALSHSLTGSLFLGAWLCGCTRHGRAPVL LEVSIVACGQLCEAAPQIFIQPGLQQLP TPSATSPAYLWVDVLLTLPSVIKQKRVI SFLTKE |
| 12751 | 26652 | A | 12880 | 232 | 28 | PALWVPVVARFDGMEETGQNHWSKEKAW PGAVAHTCNPNTLGG*GGH/MT*GQEFE TSLANMAKPRIPP |
| 12752 | 26653 | A | 12881 | 331 | 1 | KNGPFFKNPPEFFPPPKWGVPPNPTPYF PWPEPIF*LTPGPLKKQKIPFQ\KGEIL GWGGKMGNPLPFWKWGGPPRESKSSPRF YKTPPPIFKKKKKGGSSRSRTSPRV |
| 12753 | 26654 | A | 12882 | 370 | 287 | VSILAGCCGVAMIDNTVLVHKEVKILRK *IIKK*CI**FRGHSK/HNFSG*AWWLM PVIQHFGRPR*GSLEARSLRPAWATWQD PHLYEK |
| 12754 | 26655 | A | 12883 | 656 | 1168 | EPSRGVWPHEDARINGSKKKKSKDKKRK REDEETQLD/IVGIW*TVTNFGEISGTI AIEVDEGTYIHALNNGLFTLGAPHK/ER IALKPGYGKYLSINSDELVV/GRSDAIG PREQWEPVFQNQEVRNGGPAEMGEEKRN GTKWREDTDHTSFPLFPSTGGQPKAHSN WRKVCH |
| 12755 | 26656 | A | 12884 | 205 | 452 | ASGSAHRFRTFSFETGRVLDKPSQTDHT NRKRGGPNVK*SFL/WLGAAAHACNPNT LGGRGRRTA*AQEFRTSLGNTVRPCLY |
| 12756 | 26657 | A | 12885 | 112 | 290 | KYNIIQYNIVFSCHDPLVSFNLFFFFFF GKGGFPLSPRLKARGRVWGYLNPPLPGK RNFWAPPPQGFEIKGLPPP*SPPFGGVG QAKNLGPGFQPPPAPMGKTPFF*KNQNN PNWGGQPLNFKTLGGGGPKISF/PPGGG GLNNPKPSPGPSTWGKGGNPLSQKKKKK KD |
| 12757 | 26658 | A | 12886 | 406 | 190 | TRSLARGGFGRPLQKPYWNEQSFIMAKK \YEQPKCPWTDKWVNKMWSILTVG*YAA MKRRDVLTCATITCR |
| 12758 | 26659 | A | 12887 | 440 | 160 | RVCVCVCVCVCVGVFVCFALWLSSLIYN *VYLFLFVHNLGRVSFSYFLNLI*FFEH VNHV/HNYVQMIQNTKLYLKSYLETFH/ CPC*FPPILLH |
| 12759 | 26660 | A | 12888 | 201 | 411 | HIWDVILIRHALGNFLTSISCYIVKIWL DAVAHTCNPNTLGGQGG/WIT*SQEFKI ILGNIGDPLSTKKNK |
| 12760 | 26661 | A | 12889 | 138 | 464 | SCTMNPSEMORKAPPWRWRHRS*APSTH KMNRMVMSEQMKLPSTKKAEPPTWAQLK KLTELA/TKKKSLENTRGTQTSKNMLFA ALMIVSTGCAGVPSSSKETATIEDKP |
| 12761 | 26662 | A | 12890 | 146 | 366 | FSVSMKYFV*IH*FYHL/KLLLMVYL*Y |

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|--|---|----------------|--|--|---|--|
| | | | | | | AHACNPGTLGG*GEWMA*AQEFNTGLSN TAKPYLDF |
| 12762 | 26663 | A | 12891 | 368 | 50 | KGRQSGVSSFPVGTVTNYTNLVAHNNRY LFPHSPGCQTSEVKVLA\GCSLLKASRG EGFFPLPGSGGSKCPLAYGCITPISASS CDLLLWVCVFSSYLAY*DTCHWI |
| 12763 | 26664 | A | 12892 | 227 | 456 | KLTTLLKLFEK\IEDRTLSKSFYEVSIT *IPSSSSSSSSSP/ISLINTDAKKINKIP RNRIQQCIKKIIFHKFSTGIYS |
| 12764 | 26665 | A | 12893 | 461 | 89 | IYQNLSRKPDNIKCW*RCTEIQTLIHC W*QCKIMQLLWKIIWQFL*/ELNTEVPY DSIPLLDMY/PKKTEC/YTSTQTLIYCM NPIEYYSAIKRDKVLIHATTWMNLENI/ ISKRRQSQKSTYCMIPLI |
| 12765 | 26666 | A | 12894 | 222 | 185 | RIVMQYLHLNLGACVCVCVFVCD/CVCL CV*MCVHIHIYISTHTYIHIYVCM*ICR LS**CEFYS |
| 12766 | 26667 | A | 12895 | 186 | 166 | IFFFFFEMGSHSVTQARVQWHNHSSKQH PPP\GASDPPTSAY*VAKINIFFFF |
| 12767 | 26668 | A | 12896 | 55 | 485 | TCWDCRDEPPRPALESVFLTSFLEDEFS IEIADLVPHPTPCSHPLQPP**VIIYFC S\KPLVTGSSSPPRKPFPSLHEPKSASL *PPSSTIQPVRSSPKG*PSPPLA*VQFP KGMTIPTLCLSPVLPVPSTIPLPNVSKP LPFY |
| 12768 | 26669 | A | 12897 | 923 | 312 | VDVIRKVQIEITLRCHLIHVRIÄIIKKT RANKCW*GCGEEGALVHC*WEC/NYILV QPLWKTVWRFLSKLKIELPYDPAIPLLG ISPKGNEII/CCTPKFIAAQFTIVKIQT QPRCSSMGKWIKKL/W/HIERSIDR*LE YYLAFKKKAVLSFAKTWIDLEDIMLNEI SQTQKEKYCVISLICGIKKKKVKYIEIE NKTVITKVRIRWRK |
| 12769 | 26670 | A | 12898 | 320 | 3 | ESWRWGRIVRPHSVPGETWLCPVPPGPP NAPDGSFPLAICPVPPSCRSL/CPP/DD CLASAGV*GGFPLPRTEASPHHSWACPQ EQPWPPQCKLKVGAPNSTALSEGS |
| 12770 | 26671 | A | 12899 | 138 | 447 | IFVFHYKTQNIYNEDTLHVIIINLWCYP GSYIKSTGRLRPEVERGLGPTTMCC*FS SIKNIFYF*KLKSYRKL/WLGTVAHAYN PSTLGG*GRWIT*GQKFNRD |
| 12771 | 26672 | A | 12900 | 279 | 1 | INQSIHNNIKSTYISQCKLIQP*WKIIW RFIR/NLKIELLYVPATPPVGV*LKELK SAC*RDNCTT/M/FTAALFCIGYGSNLG NSTALIGSRVLFP |
| 12772 | 26673 | A | 12901 | 235 | 183 | IINYGGGPPEKKKKGGKKIPLIFYKKIK KFLWPKKKKLFGGAKNPIV*AHHIFTV* IDVDTRADFTSATI\IIAIPTGVKVFS* LATLHGSNMK*SAAVL*ALGFI |
| 12773 | 26674 | A | 12902 | 180 | 19 | LFIYLFIYLFICEIRCHFVTQAGLQW\L IIASCSFALLGSSDPPTSAS*VKGI |
| 12774 | 26675 | A | 12903 | 406 | 949 | APVPGHGFCVSF/CGENGVSLYCPGRS* TPGLKLCSCL\CLPESWDYR/R*APVPG \LGFVFHLTL*KPPFFKDYMKSLFQFLK YLIQG*CTLV*GVRYRSSFIFFFFFLRR SLA/SVTQAGVQWRDLGSLQSPPPGFTP FSRLSLLSSWDYRRPPPCPANFAFVFLV |

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|--|---|----------------|--|--|---|--|
| | • | | | | | EMGF\TVLTRMVWIS*PCDPPASASQSA GITGVSHRARPKFVLYFKDNGEPLGGVL HRSHIAVHWM |
| 12775 | 26676 | A | 12904 | 265 | 385 | GNGSPSLRWIGVLRGRSPTLELRH*PIF LTAASRRSLDRVSVPMWGTFLSEPLSIE GLVSRYLTNNLMERIPILYRN/PFNNET M/PESLCYRVLIFLSKGYPRVKGRLDTC YSPVRRSPAKKASFLPDAPRLACVKPVA SVHPEPGSNRTRG |
| 12776 | 26677 | A | 12905 | 363 | 137 | APGMQA*WCM/HCIPGAQEAEAGEWTEP RSSRLWCTVIMPMSSHCTPAWATW |
| 12777 | 26678 | A | 12906 | 315 | 565 | TPVDHGWLECSGAIMAHCSLKFLGSRDP PASASRVAGTTGVCHHSQLIFLFFVGTR SNFVAQAGIELLG*VILLPQSPKVLGL |
| 12778 | 26679 | A | 12907 | 376 | 412 | DAWPTWRNL*FGVYVMTDR*EPROMLTY LTA\PLKYFKSGVMAHSCN\PSTLGGQG RWIT*GQEFET\LANMEKPCLY |
| 12779 | 26680 | A | 12908 | 215 | 2 | NIHINGQKLFL/WLGVVAHTYNISTLGG RGGKIS*TQEFETSLANTVRPHLHKKQK IALPLPLPLPLPTVR |
| 12780 | 26681 | A | 12909 | 307 | 379 | KR*KQPQYPLTEEWINKMRHV\LQYYSI LKKKEIL |
| 12781 | 26682 | A | 12910 | 279 | 123 | KMILSWARWLMSIIPAAWEAEAGGSVEL RS*\LRLE*AMTVPLRHFTPAWARE |
| 12782 | 26683 | A | 12911 | 1 | 194 | AKQHIPLLARLECI/GLFTNTVTAHCSL ELLASSHPPASAS*VARMTECVHRAWLE WIFYLCVIL |
| 12783 | 26684 | A | 12912 | 206 | 388 | IELSKQGPVYYKWYVRITPPYFPFFFF ETGSCSVT\RLECS/GTITAHCSLNLPD LSYSPTAAS*VAW |
| 12784 | 26685 | A | 12913 | 238 | 426 | TPLLPSQQWLKKESLWLGRVVHACNPST LKG*GGRDS\RGQ*FETSLGNIARPCLI REKFLKI |
| 12785 | 26686 | A | 12914 | 115 | 1436 | AKDRHFTEV*IANKQMKRCSTSLGMREM QSKIVRYHLSE*/R*LFFFNGGNCWQG/ CKK/IQDLIHCWECKMVQPLWNIIW\RF L*NHTCICHASGIALLSIYPREMKTCVH TKTCIRMFIAALFVMVETWRQPIYPSLG G |
| 12786 | 26687 | A | 12915 | 282 | 21 | IKFPPCPSTWGTKKKLFPKKKKEVMKML CFHFNLLVQNIF*YRLGNEISDKAG\PV AHAWNPSNLGS*GELIT*GQEFDTSLAT IVKL |
| 12787 | 26688 | A | 12916 | 254 | 150 | TLPGRSSDFSLPEV/YLKKNNH/WLGVV AHSCNPSTLGGKGGWIT*GPPHMLKVSF LPTDPTSRVKQLYNWVPHSTVLIALFPT KNPG |
| 12788 | 26689 | A | 12917 | 181 | 24 | AQWCDGIPVSKGNL/WLGMVAHACNLST LGGPGRWIT*GQEFETSLANEFHRTD |
| 12789 | 26690 | A | 12918 | 75 | 298 | LFILFTS*VD*MRPTHIKENNL\LAQST NPNVHLIQ/KHPHRHSQNRVWPNVWAPH G\QSSCHIKMTIMARPSGSQL |
| 12790 | 26691 | A | 12919 | 251 | 9 | KFMFLARCGGSRL*SQLSGRPRRADHLR PGVQNQPGQHSESQYLPKSTNFCRVWWC TPVVPATREAEA\GESTEPGRQRLQ |
| 12791 | 26692 | A | 12920 | 198 | 211 | RFCFSVGDEREGKRA/RERNRETERKKQ TEDTETQREERDRDRKR\ERETDTERER PREERHTEREKK*KAAFPFQTLGCRAQD |

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|--|---|----------------|--|---|---|--|
| 12792 | 26693 | A | 12921 | 438 | 127 | FPKQLFPSRGWGVGPMTVLL RVVMERIFVRPHIKDSMWWVRSTLLGRG |
| 12/92 | 20093 | | 12921 | 436 | 12/ | DALNDLFLYCWEKEDPRYKERP\RERER ERERERERDRCWEK*APGWRERPVQSLR ACHPPWHRFALAGPVPSAQ |
| 12793 | 26694 | A | 12922 | 158 | 460 | EARVELLLSSRCKPRAVITAETQPAVYR LQLEIENFPGLSPRLECSGAITAHCSLD LLG*SDPPNSASR\AGTTGMCHAQIVNS CKADWLVLLSSRGLTHR |
| 12794 | 26695 | A | 12923 | 33 | 484 | GIQAACIPGLRLSPPADAHCHRHIPSPP PSSTAPRDDVGPMQITPDNFPPQDPPL\ TPPSQSLLPHRAP*PQGSSVDLPGLLFK LPQMPQTPGPEEVDTCVQIHKTSKARED VQMRKTPMAREGRHRAAHRWIGALGKAP QSQRRLRHTVG |
| 12795 | 26696 | A | 12924 | 335 | 332 | RIKVYVRGHAKE*LRPGP/VAHTCNCHT LGGQGMRITQAQEFETSLGDIGRPHLYK KKKKKGGPF |
| 12796 | 26697 | A | 12925 | 302 | 407 | AQWLMAIIPAPWEAEAGGLLEPRS*\AW |
| 12797 | 26698 | A | 12926 | 766 | 244 | RVPRLPPPAL*LEFSPSGLRLARSHSFQ LRSSPPPVSPPST/PFSPHRSPPLSLLS LSVPS/PPLHHSFFSQRAPHILPPPPLI FPSSPPPAPPPPPPSSSSPSSSSSPPPP /PPINWGTPRFFPPPPFKNPPPEINFGG PKKKKIFSPPRA*KFVFLKGPPPFFFFF FFFFLGINLL |
| 12798 | 26699 | A | 12927 | 127 | 720 | WCGLLESTELQLQSLPGLYVSVIFGKIF YISGLGICCTKIFPSALPSAQPAASLPL PARSALGIVFFLHFC*IE/CNYKKLPIF HHI*LIKTFSYGLT*LFFFFFKTKSLIF SPRLNCRGPFLVN*NLCLRG*GNSPA*P FGGAGIEGAPHKAGLIFGGGGGAFLKKT G\LHHVAPGGASNSGTGNISHPPLNPPK GAGE |
| 12799 | 26700 | A | 12928 | 308 | 49 | KEHW*AVGHFNICVTGGP*GERKKGTER VFKEIITPNFPNLIQTIKPKTQETQHTP SRRNTKI/TPRYIIIKFLKTSNKEKILT TAR |
| 12800 | 26701 | A | 12929 | 375 | 2 | GCMLSLKTINILEVLANVLAQKKIKRRK LND\EQADTTFTI*FCVRQKTKKSTDKL VKLI/ERFYKVATYMINFLKKSNSFHTP ATINC*KQIPFIMATKTIKYLRINPRKK CVRFVGKKLTFPER |
| 12801 | 26702 | A | 12930 | 202 | 379 | SSENFSGKTVNLCCLGRLHRMISWLHTV AHACNPIT\GWIT*GQEFETSLADMVKP CLY |
| 12802 | 26703 | A | 12931 | 209 | 376 | TVGEKMYLKVKRI\WLGVVAHASNPNTL GGQGGWIT*PQEFETSLGNMAKPHLYKK |
| 12803 | 26704 | A | 12932 | 280 | 31 | ISCKVTKKVTLFELKYIWNKFYIYERVS IVGTTEDAACEVTSNVITGPGAVAHACN PST/RGRWIT*GRELKTSPANIAKPRLY |
| 12804 | 26705 | A | 12933 | 1 | 189 | QMYTESEP*CKLWTLGDYNV*M*FIS*/ IQCTTQAGNVNIRE/RLCMCSGGEYMRN LCAFLSILL |
| 12805 | 26706 | A | 12934 | 108 | 409 | HHSHLLKLPNVWFSFCHFIVTVFLSL*R VFFVFY*IFLSSSHFLFSFCFCPIMFIM FPFKFILSCNIVFI*NIIFFLF/VHV*G |

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|--|---|----------------|--|--|---|--|
| 12806 | 26707 | A | 12935 | 225 | 11 | *STLVSLFVFFFFLLQF ILLCMEPSFLFWFGFICFVKTGSHYIAQ VEVLWLFSGMIKVHCSL/KLLHSSNPPT |
| 12807 | 26708 | A | 12936 | 74 | 12 | SAS*VAGNTGSSYCTW GTTHASAGVINILVFILSVFFLTHSLCI HISKYMFVYICVCICTRTDFYTEFKSFC TFCFFGSSFFFLEKKFPLVAGLEEQGKD LG*LKPPPPRLKKFSCLTLPG/AWE*RT NG |
| 12808 | 26709 | A | 12937 | 166 | 311 | PHS*WECQMVRAPALENWQFLTKFIRGL PL\DAALPLHM/CHRKSCTQLFIIALLI VAKKCNHHKNL*ANEWINKM*YIHTTDY PLAIKQNEILIHATTWMNVVTL |
| 12809 | 26710 | A | 12938 | 51 | 296 | LCMYTLHTLYMHTCIYAYICYTCKYIHR Y/LHT*IPEDANSVKHKYTHTHIYVHTL VYPHTTYLMCSYIYSWVCVCVCVYIYT |
| 12810 | 26711 | A | 12939 | 426 | 28 | KGFNLVNPRVFPSPRF*TPAPVFYFCGP IKKIFFFKAGGVKFDSLKRAPLFFFFLK TGSCFVP\RVECNGIITAHCNLCLPRSN DPPPSDLQVTGVKPPP\AKLFFFFLW*M GFHHILDYQGETCLSQLLGWR |
| 12811 | 26712 | A | 12940 | 11 | 213 | ATAPGLFSFFETGFCSVDQAGVQ*HDHG SLQP*PP\GSSDPPALASQSARITGVSH CKGPEHTSLLT |
| 12812 | 26713 | A | 12941 | 416 | 38 | WLNNHSRLGFPNCWDYICKLPRLGPDVA SLLIHNSS\GTWYGATKLESNWYFSIPI YKDHQK*FAFTWQGQQYTFTVLPQDYVS SAL*HNTVHRDLDHLDNPQNITLVHYSD DTMLLDLMSRKYQAL |
| 12813 | 26714 | A | 12942 | 361 | 74 | IIHPSFSVSSRNIHKNAYPAALGGYSVY GVAILLFHYFINKLAFTLHCGLA/LNSF LR*IQEPPLG\SGSGPFSCNVFLAPTEG TIVQKPDPMATFG |
| 12814 | 26715 | A | 12943 | 125 | 401 | SSFEPRGIPLNPEVAMQKESVNILCSPR SQEFLESRIKIKVLTDLTQDEL*GQAQ* LTPIIPS\IWEAKAGGFLEPRSLRLRSC HCTPAWVTE |
| 12815 | 26716 | A | 12944 | 92 | 306 | KRTTNSPWGCSAY/GVAILLFL*IL/KL LAFTLLHGLPSNSFLRKIQEPSLG\SGS GPIFGNKLVAFGGLMIVVS |
| 12816 | 26717 | A | 12945 | 322 | 24 | NFKKNINLNPFLRGYFLFLKGGFGLTFK KVGEPLKKKKKKLNQQFSYFLSTYTVK* NN*/WLGAVARTYNPSTLGGRGGWIT*G OEFGTSLANMVKKILAK |
| 12817 | 26718 | A | 12946 | 2 | 448 | GGAPMKRHGSLDRNYRVDTTRPSQLFLF QLYHNYLKFAYEATKEYMHRKETLCLPC PAIQFSFPKSNLCYRGYLCMRTCAHTQM *MYRYIYTYVYMHIYICM/YRAICTYYT FE*KYILQKCILLCIFLFFLQYLKYVSY LNRHHFLIAA |
| 12818 | 26719 | A | 12947 | 155 | 415 | LLETGGNAGCSSWMHVLLGKIHRYGMGS RPISLMAG*\GPPWLRRVAGLRGRPATL GLRYGPDSYGRQQW\EYCTMGASLMQRR RVRD |
| 12819 | 26720 | A | 12948 | 247 | 250 | KYVYKYIHIVYKCVYIFTHVYGYTYLYT DVYKYTYLYTDV*ICICIYKCIYLYWYI YIHLCINMYIYIHLCINMYIHIHV*IYI HIYI\HVYIFIYIFLYTVYK*IHIYEVC |

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|--|---|----------------|--|---|---|--|
| 12820 | 26721 | A | 12949 | 25 | 407 | EYIYTLWKL EALSLLLLLVLWGLLLGIARKMYQQMNL VQYCLLVL*P*NL*EQKRFEREVGLDHR EP*FHVLGCIHSEKSFRFWSW*EL*IRK LTLVA\GGVAHTVPNTLGHRGRRIT*G |
| 12821 | 26722 | A | 12950 | 370 | 106 | QEFETSLGNVVRPLFL ILYLETLLKSFISIRSFSAVDSHFEKSS TVGKMLPNSITCTDPI\FNKKKSQLMWQ SSLLPFSQKLPQSPQPVSQQPSPSRQGS IPATR*QLA*GSVQVMLFGSILPTVELF SKWESTAEKLLILINDFSKVSRYKIYV |
| 12822 | 26723 | A | 12951 | 280 | 319 | DQPGQHGKTLF*VSH*KKKKGWM/PGVY AYNPRFLGGRGGWIT*GQGFETSLANMG KPCFY |
| 12823 | 26724 | A | 12952 | 337 | 113 | IQLAISLLGICPRDLNTVTCS\SDTCTQ MFLSVLLMVAKR*KQPKYLQIDEWINKM QCIHMESYLVSKGRKYLCKL |
| 12824 | 26725 | A | 12953 | 9 | 186 | DPTVCCLQDTHFTYKDTNKLKVMGWTKY /CHANGNQKRAGVVIQIEYP*SKSLKSE IVQN |
| 12825 | 26726 | A | 12954 | 46 | 381 | NENTYSYKKNTQMFIAALFVVTPNWKQP TCPS/SGEWINKLL\YHLMVYYSAVKTN /ILVYVATSVNLRIIILGKQPDKKRVLT V*FHLYRKYKLISSDRKQIHGRLEVENK GK |
| 12826 | 26727 | A | 12955 | 19 | 250 | CSDMVLKACIKKLMSYSKMGHIQAMDYY TAL/NKEL/LMYATI*ANLEDIMLSKIR QTQKDNCLMVDCIYIRYAEQSSL |
| 12827 | 26728 | A | 12956 | 173 | 163 | GAKHSASGTGWIRKDFTRPGAVAHACNP STLGG*GGWLSRSEFETSLTNMVKL/CL YKSICCTRCLLGCFPQALSKAID |
| 12828 | 26729 | A | 12957 | 301 | 79 | EKDNQPLLTPRNCNVLHAIKESENHRIT ELKVTLRPDAVAHTCNPSTLGGRSG/WI A*GQEFEISLAKKVKPCLY |
| 12829 | 26730 | A | 12958 | 314 | 126 | KHHHFKKHNFRVLCVCVCVCVCVCYKHF YLFSLSFSQ*P/CICC*CVCCSFLLCCF *SATYLKII |
| 12830 | 26731 | A | 12959 | 529 | 1697 | VPFMGHISNFFFSPFLRQKYLALLPRLG VQWQ*SRAHCNLRFPG\SSNSHASASRV AGITGACHHGWLLFVFLVETWFHHVG\Q AGLKTP*PQV\SACFSLPKCCDRRCEPL CPATSSILNL*TMDRL/PGEPKNQ*NLL VSFMCAVFYREGQQHVYFQRSLWCKREF IVRSPWAINLEKGGLRMGAV*IRIMLNL TLT*GFCTEDEKTVNSRVNQKLTPT*LG DE*DVKREKNINDEIKLLTCNSEYTKSY RLGR*IKLGAFCFFM\VPMGQTGRNGQL KVQV*TGTVAHVCNPSTLGG*DRRITRV QEFETNLGDHSESSSLQKIKLARHGAAR L*SLSL*VSWDYRCSPPWP\SNFCIFK\ RDGVSPYWPKA/WS*TPDLQRSAHFSLP KVLG |
| 12831 | 26732 | A | 12960 | 1 | 395 | GTREFRILSEKFKKEIDFFFFFKKQSSP PPGPKKQTL/C*KQTTPTKPQKTNLGPK KFGGQPKKPFKISHPQIGPPKKKNYNP* GQPVWNPPGEKKEGPTPPKFKDPGANLK |
| 12832 | 26733 | A | 12961 | 90 | 436 | VMGLKGGVKRKRGGKTFPQRA LWRLTSPKSAGWAGNLETQEESMLQFKS |

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|--|---|----------------|--|---|---|--|
| 12833 | 26734 | A | 12962 | 415 | 462 | LI/MEGDLLYSKPIHFNVKISSKNTYRN IWNNVWPHV*TL*PSQSD/CLK*TITPI VLLTCTH |
| 12833 | | | | 415 | 463 | LRAKDQVLPKILVC*TLLFFCAQIKKKK K/WPGAVAHAYNPSTLEGQGGWIT*GQE FKTSLGNMVKPSGIPPHWI |
| 12834 | 26735 | A | 12963 | 774 | 316 | SISPTCSGKIGGKLNRHFSKEDKTG\RY MNKCFISLVISECYLKP*EDTH*TP\LR MAKIKRADH/DKC*QRYKMTGTLIQC*R ERKMVQPLWKTV*QFLKRLNIHLPDDSI PLLG\IY*RKMKACVHTNTIIWMPIASL LVKAK\AKKQPKCPSTR |
| 12835 | 26736 | A | 12964 | 44 | 395 | MYFTLVWGSLGPKFLGGHQPLQGQGPFL HFLKAL**FPFPQTPGNGGGTPPAKTFP PFPTPLSSSSPCPSPAEGGSREPSLSTP /SCLHLYIGGAASNPSPPSPLPPPQCSG LGYPVC |
| 12836 | 26737 | A | 12965 | 424 | 50 | MAFPFLSCAPDAINNNNKKCCREINNEE PPNEPLKWRHIMIFFFEAESHSFAR\LE CSDAISAHCKLCLPGSRHSPASAYRCPP RHLANFSAFLVQTGPPRVSQDGKDLQTS *SALLMPPLDPAIP |
| 12837 | 26738 | A | 12966 | 245 | 44 | QSKELGNYPLPSPSPSSPSPAFHGLPPP SSPSPAFHGLPLLP\SWTVQPQ*RLTAT SLPDPPASPRPG |
| 12838 | 26739 | A | 12967 | 205 | 30 | QEGASLSRIKRGPGVGAWLGMVAHACNP STLGGQG/SWIT*AQEFETSLGNPHLYQ KYKN |
| 12839 | 26740 | A | 12968 | 114 | 465 | DPVSNPETTKPEPPKKTTES*P/EPKSL LWLPS\P*NSS*CANREQQPPSPQPHLP HPLPTSLQVHRLP**SLPPPNLFTPLYD /SPEPSLLPVIQFPA*TSPP*PPVYSSP PSPTCPLH |
| 12840 | 26741 | A | 12969 | 1618 | 1038 | VHMVQDKDINLNNQFLSGTMLLFFKETS HR*DRGPGDF*SCLYSAPIPTQPLLF*Y LPQNFIEG*PS*NSRIKGTSLKTYISRV PSFFFSFL*DGVS\TVPQAGVQWHDLGS LQPPPPGFKRFSCLSLLSSWDYRHPPLC PANFLDF**RRGFTMLARLVSNS*PCDL PASASQIAGITRMSHHTLPHVFPLNV |
| 12841 | 26742 | A | 12970 | 197 | 411 | EQALRSTVCYCLNPLPPAPLRPRQDC\G PCRFRWMPGGRTRWLAPVIPTL*EAEAQ VWLEARSLRQAWATW |
| 12842 | 26743 | A | 12971 | 616 | 777 | MGIHGVRHNAQLNFVFFVEDGGEWQLTC TGAGDSSWVLGEP*VFAC/PKNVLFYLH P*LFG*I*IYQLKITF*NYEGMVP/FVF RFLFETRSLLSPQLECSGTITTHCSLEL VGSINSSISAS*LDGNT\GVRHNAQLNF VFFVEDGGEWQLTCTGAGDSSWVLGEPL RYYKERLIKWYL |
| 12843 | 26744 | A | 12972 | 222 | 389 | VITEALGSDELEGRQLWW*IKIHSQVQW LIPVIPAL/LEAKAGGLLEAKTSRPAWE T |
| 12844 | 26745 | A | 12973 | 425 | 145 | QIIFFLFQKIKNQFNKASFFKKMTLEQM TSRQKNSAQISVFKKKNSKWITDLNVTH *TIQLTGKN\NIGKNLQDQGLGKEILNL TLKAQSTKG |

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|--|---|----------------|--|---|---|--|
| 12845 | 26746 | A | 12974 | 322 | 411 | NNKKIFMSTS*KFFYCFIVQLIFETILS VRVLESIILINYL*YCIICIFPFLFL*T *EIRKVTKFTSFPQIEEK*KCRR/WLGT VAHTYNPSTLGG*GGRIA*AHEFETSLG NTGRLPSVQKIL |
| 12846 | 26747 | A | 12975 | 428 | 1 | SRKSSSQFRLSFFPSHFLDLGAKGAVSQ DRAIALQPPGPRSR*S*RPPSRPRCFRR PRPSRSRSNKERAGEKRRPRRSLQPRPP HIAGP/VPRRQGSPSAGPEAPLATDEPP PQRRSGIRGGSANIRSKQTSSLRPRVRG RVG |
| 12847 | 26748 | A | 12976 | 60 | 294 | NHCTETVLFQ*LTCVCVCVCVCVCVCT ERI/CFFKFLIGKGTYGCIYLWPKTFIL IFIYILYSPRGRSILKKKFFFLT |
| 12848 | 26749 | A | 12977 | 6 | 341 | DSLTLLPGLECSGAISAHCSLCLSG/FK QFSCFSLPSSWGFTG/VPPRMPQLIFPY FSVKTGFH\HVG*AGLKLLIPPASASPK CWDYRREPPRPGDLWNF*PTGFKLRFPQ FPL |
| 12849 | 26750 | A | 12978 | 296 | 42 | SQPASLGFKSVDLPLLAVCPLGKITLTL WDFSFIIYIKQE*WPRAGIFMPY\NPST LGGRGGRIS*AQEFKTSLGNIVKPHYLV K |
| 12850 | 26751 | A | 12979 | 20 | 373 | KLYGGIWGFFFFRRGLNSATQAEMQGHN LG*LKSPPPG*RNFPASASGEPGITGS HHKAGIVFYIKKKPGLKTFTLGKPTPPP SFRHWHQPAPMGVYSEILGEKSLTNGWD PQTKKG |
| 12851 | 26752 | A | 12980 | 380 | 96 | PVFPPPWRAQKGGSIGREIRPPRGNQGK PGPP*KKKKNYPGGGGGPPSPPFPEG* PKKWHNPGGGTPP*TEFPPWPSTRGGEK KPPSKKKKKEK |
| 12852 | 26753 | A | 12981 | 331 | 71 | ELLIYSWVWWCTPVVPATW*GRELVGRI T\KSRRLRLQ*AKIVPLHSSLGDRVRPC PPPPTKKKLANLCPWTEGSLSFSYLLEQ FHSC |
| 12853 | 26754 | A | 12982 | 383 | 189 | RRALKSCAHSTPAGPKNAALSQAQWLTP VIPTL*EAEAGGSLELRSPRLL*AMIEP \CTPAWVTE |
| 12854 | 26755 | A | 12983 | 144 | 6 | ILAQ*KTWLSVVAHTL*S/TLGGQDGRI TGAQEFKTSLGNTRRPCLYK |
| 12855 | 26756 | A | 12984 | 341 | 509 | ETLYTME*YTAIEKNEIMSFAGTWLELE A\VIL\SNLV*EQKTKMLPCSPLMGWEL K |
| 12856 | 26757 | A | 12985 | 387 | 125 | DLPPTPPKLEPRTCSVAQVEVWCL/GSL QPQPPGP\SDPPA*AS*IAGTTGTRHHA *EMFPF*VYFVQTSEHILGINPPGRHTK VAWEV |
| 12857 | 26758 | A | 12986 | 151 | 350 | GRGGF*PLP*IFPPGQERPGFTPPKAPP PLGFFFPG/RFFFFLRRSLALSPRKWRD LGPLQPPPPPPTPGY |
| 12858 | 26759 | A | 12987 | 251 | 1 | RMSLLEKRRSNN*EARV/CGRVIYVATE VIKIMIGISMVAHAYNPSTLGGQGRRIA SAQEFETSLGNMTNPCLYKKYTHKKSRA |
| 12859 | 26760 | A | 12988 | 320 | 3 | TPWGVKDFSPPPPPGEGVFPGRAPPPR* KFFGNFWKKRGFPNWVRGVLKFWG\KNF FPPNLPKSLGLRFKPPGPP*KAPPFFPL FFFFFEMEFRLCCPGWSAVAQS |

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|--|---|----------------|--|--|---|--|
| 12860 | 26761 | A | 12989 | 353 | 183 | EYGTHILTAAIFSIAKRWAHR*GSLTDE WVRKNSSLQSMEYY\SAIKKNEVLLHAA P |
| 12861 | 26762 | A | 12990 | 377 | 2 | LSIILINFPRFSLQRGKYPGPPPPKKNP PQKTPPRAPKKKKPFFFFFFFFFFKKNF PFFFKGQSKGGFFGPP*PLIFRFK\NPP PPPPQKIGFKAWVFSTPPPPIWGFFFFF FLRWSLALLPRLEC |
| 12862 | 26763 | A | 12991 | 134 | 298 | PPNSYCDGSITLIPKSDKNITRKEKYL/ P/IYLMTIDAKVFNKVLPNRIQQ*IKRI I |
| 12863 | 26764 | A | 12992 | 892 | 171 | QT*SH/SLSRLEYSDTIIAHCSLKLMGS SDPPASASQVAKPTGHCTTMPQPHTEGF |
| 12864 | 26765 | A | 12993 | 269 | 2 | GLWCFVKQLKLTETCPHFAVPQFPLGIS KIPISILFFKKLLL/WPGTVAHTCNPST LGGRGGWTT*GQEFGLMFHHWPSKFHHG QHGET |
| 12865 | 26766 | A | 12994 | 324 | 4 | SLYPLLFQAEIYFLVTIHRSSMESCIYF FSVVVPLDSLVQIHVKI/HIKGIGML*V N*QNCFKINISE*L*YIWPSTVADTLGC QGEITRAQGFKTSLSNMTKPHLY |
| 12866 | 26767 | A | 12995 | 106 | 531 | WLLNLFAFLNDKGFLVPMNRSRIFSQQK VKQRSFEGCSSFNDVGSCYVTQAGEQWL FTGVIGTL*PGTPG\SSDPPASASQAAG TTGS*HHIQLNLILYSSG*QTI*LL*TT DSTHLIFASLYAKEQLITFYFQATSLQP CT |
| 12867 | 26768 | A | 12996 | 1 | 367 | NTEPFLNIFFKDKVS/CSIAQAGGQWRL YSRCSLKLLGSSNSPTSASLVAGSKGRH HYTRL*LFFYVSRPQDYLPWSPVFFFSF FLSFFFWKGSFFLPPSWKARAPIWVNGS LPPRVKPIFLA |
| 12868 | 26769 | A | 12997 | 3 | 379 | YRPSPSETKAVLVFFSFFSFFFLGTPGG KGPPKGAPNPTLTWRGKENFFI*KKKKP /RLI*KKGPPPKMGFKRERFWVLKPKGP QFGKGEKG/SPNYPHPRGDPKAPSLWKK PQFPGGGGGGAPKKAS |
| 12869 | 26770 | A | 12998 | 230 | 409 | SCRPKKLLAFLKSSTEISQRWKQPIYI/ PSTDE*INKMWHIHTMEYYSALKRTKVL IHATT |
| 12870 | 26771 | A | 12999 | 310 | 343 | DPVCTII*IICDIINL*IECSKVW*SLKF YKILILFNVCVWPSVGNCHKWLCDCVV* KQW/LWPGMVAHTCNPSTVRGGGGRIV* GQEFETSLGNIVRPSLYNNKSCI |
| 12871 | 26772 | A | 13000 | 390 | 289 | IKLCOPRGVKLDSFKRAPPFFFFFETRS CFVS*AGVQWCN/LGSLQPQTSGPNNPA TSA*LSLIFMCSNSYVCIVK |
| 12872 | 26773 | A | 13001 | 1 | 289 | GILRQISVNYLPVGRSLAQAGVQRCDLG SL*PLPPKVKQFSCVAGTTRGCHHAWLI FIFSREG\GHPVKGASSDSPTFGFSKAG ITRLSPRALACT |
| 12873 | 26774 | A | 13002 | 359 | 105 | KQKKNPSPPPGGGGGQGKPG/PPKPFPN SRDFPPKNQSPFFPKLKKKFFNFY*KAK NP*KPNPPLKKGKKPKGFFSPPPPLKKP PNV |
| 12874 | 26775 | A | 13003 | 243 | 293 | MNSQFLKRL\RIESPYGSVISLLGTYST EK*KACPCKTCTQMFTSALYIIAKKW\N KCPSTVRW/IKLWHINTMEFFCQ*KKFH |

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|--|---|----------------|--|---|---|--|
| 12875 | 26776 | A | 13004 | 465 | 307 | SEACFILKLFMFCG*CCLFVC\SILLVF YFVFCFVLFCFAYYMOFFNQCLFG |
| 12876 | 26777 | A | 13005 | 207 | 3 | DGSLTMLPKLEC/RWLFTGVIMAHCHLE /RLGSNDPPASASRVAGTTGVCHHA*LI FIFFVKMRSHYPTRP |
| 12877 | 26778 | A | 13006 | 2 | 56 | DLALLFRL*CNGMITAHCNLK/RPG*LL GSRDPPTMVS*STGITGMSHEAHRPSPS CDF*RSCSVVQAVVQWHDYSSL |
| 12878 | 26779 | A | 13007 | 402 | 74 | FGASLLKRHFLFFLSKPLVYNKKIPRPL VFLKKT\PPPPGRATPFYYCCFFHKEGP GFGVKKEG*PKG/SPPPPQRGSTPPFFL GAFKKPKVTTPFFKKNPPKTLKGPPFF |
| 12879 | 26780 | A | 13008 | 356 | 145 | RPPPFFFFFETVSHPVAHAGVQWHDHSS LQL*TP\SSREPPASAS*VAGTTGVHYL PGSQLPILEHSPRR |
| 12880 | 26781 | A | 13009 | 227 | 353 | GWSELT*/SN*AQWLTPVILAL*EAEAG GSSEPRSLRSAWATW |
| 12881 | 26782 | A | 13010 | 249 | 32 | NPDSHSWAWWCASVVPGTQKARVGGSLE SRSLRLR*AMIVP\CTPAWVAQEPLSLK KPPTIETLFPSPQDPSQ |
| 12882 | 26783 | A | 13011 | 247 | 403 | TPGGGGKYFFFWGPQKKNRGGGFKNGGG GKTRGPP*KQPASSSPFAPPPFFWGAPG FSPPPRF\KPPPPVFFLGPPKKKIFPPP PGGLFFFFLGGPPSPFFFFFFLGGGPL FFPGLGAMGPMAGFRSLAPPGNSLSKKK KSEGLGEGGNSVLTRVLLISSYQIPGNP R |
| 12883 | 26784 | A | 13012 | 206 | 386 | TREAQTFWFPLYS*KAL/WLGTVAHT*N PSTLGGQGRRITSSQESETSLANMVKPH LLLEI |
| 12884 | 26785 | A | 13013 | 354 | 31 | YKMNIWDIIHI*HT\YIPVVPKGKERKR KKLEEYL/QDIMTKNFLNLMKNMNIYFQ EVQQTPSRINSQTSTPRHIIIKLSKYKT GREQWILSVMLALWEAEVVGPPEVRS |
| 12885 | 26786 | A | 13014 | 1 | 419 | EETSFGKARCLPGYPGFHPRRLRSRSPL LS*MPLSHPQGPSQPPAGSMSSSPPATT STCSCSPPAAGCTRGRTTGRPFWTASGP AELDWASGSSV/EALTSGLPARGLWGQY AGLGVPPRLLGPMTSCCMSLPFPSPARP |
| 12886 | 26787 | A | 13015 | 109 | 426 | TSLGNIARPH*QTHMATIRSVPPPSWKD ST*LRLHPPPPHMCF/PD*SLKSN*Y*H YLVNP\IWPMLTLLFVCLFVCFRDRVSL CCPGWSAVVPSRLTAASTLWVQVILPP\ RLAN*IFFLRWGLAMLPRLV*NSWAGDI LPP*PPKVLGLQA |
| 12887 | 26788 | A | 13016 | 149 | 422 | LKRIFFLKVVFTHDTAPGDPDNMCPYSC F*NQIIKSGLFFFKKPHL/WLGEGAYPC NPTLLGGQGGRIT*FQEFETTPANMAKP LLYKKYKN |
| 12888 | 26789 | A | 13018 | 162 | 377 | QSPGYPERVSKLPTITQRGMWMHQPSFV CTSL*NV*TGWAQWLTPVIPAF*ED\AL AGGLLEVKNLRPAWST |
| 12889 | 26790 | A | 13019 | 205 | 427 | IQTGGPPARPFLWPWAPGKK*RVPPEGG PPKKKKKTPPPHPGGEREGS/PFSKKKK KKTPKKRAGVFFPGGPRPKEGPGWGPPR LDSKPVGAPPEPGRLGNGPGKIFFGPGP FFPLQPQKGRP*PGGEGGSFFFFLGVPP |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last a mino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|--|--|
| 12890 | 26791 | A | 13020 | 248 | 358 | LGEPSIFCLDLPENA SRCGGEAQWLLPV/I/PAF*EAEAGGSF |
| 12891 | 26792 | A | 13021 | 2 | 434 | EPKSLRPAWAT ITEAGSDTQEIHHTLYTHLCVYWRFFTK KAQVKKKVWWHM*PQLLGRLEMGGSLEP |
| 12892 | 26793 | A | 13022 | 162 | 410 | RSLRLQGAMTLPVTSTT\QAWAT LTQKTAASQIILSFSSTSLEKIPISSES |
| | | | | | | GGGGSVSVTQAAEQWRYHSLLQP*TPGD KRSSHLGIPHP\SSWDYRISKDWVMPV |
| 12893 | 26794 | A | 13023 | 250 | 40 | LIKLNIFSCSLAIWTSSCMTSLFKYFAH FSFF*IDFYSSYYILDTNPFFRN/GITN ILSSSVTCSFILFVV |
| 12894 | 26795 | A | 13025 | 264 | 1 | VSSTKHGKLRLEPEY*CFIHH*EEKVFE SYFEY/PCQTFLRKETVRPGAVAYACNP STLGGQCRWII*EQEFETSLTCIAAALR VTLR |
| 12895 | 26796 | A | 13026 | 110 | 523 | CIDSSSWTQTDRCKEDRLCPGTTGTCAP GLLFLSAPPLGPF*PSQAHPSFHVSLSG PSPGLRPQLDIPLHPSTSIAPRPLPGPA S\LPRLEPHPSLPSPTGACPFLPPCLGE QRHWPLPTSLLWLGLDGHCLATPSVS |
| 12896 | 26797 | A | 13027 | 52 | 53 | CPTLLQLTLC/LPPQASAMVDAPP*ARP LPPSSILACCTSGEQGSVVVGLAEPVKG YNLLVCRLLRPLEKCGIWVAVSRFSLYS LSWLPLARKG\NPLTACASWVR |
| 12897 | 26798 | A | 13028 | 262 | 381 | HFGRLRQVDRLSPGVRDSLCNKVKP*QI IYTF*FSVSLSVINTYLKGPSTVAHTYN PSTSGG*GKWIA*AQEFE/TSLCNKVKP CLY |
| 12898 | 26799 | A | 13030 | 1 | 846 | FRPIQAGRAPWALTLPCMGFTEGSPALL SHSSRCDIQMGCNTHAVDDSTGEGPFHK GRMRESCWLRTPRCGLYTKGVGGPGMEG RERRSRSRRQHMPGRGHSTMASWSLRQC MRLKLQWASDLLSQLEMGIPSLPPGESG SLGLTGPRSLH/CEQTIGLSPTPGESWS EELG\GGIVGGGRGTVAGRGGHREAGNK PSGTWGRQCCASGDKAMSI*LTSLY\AR RGEPGPGRPVRKWLRESSQNRIGGGEGR WE*GQRRSREGRECPVGWGGRKKPLRWG LMWS |
| 12899 | 26800 | A | 13032 | 308 | 1 | KHYHDFWCWIILALSDAQSLDHTCV\CV CVCVCVCVCVLRDQGSHSCL*CEG*LVP HFVPGPVLCLLSPVIYVCFICSLTCKVE SLSNFFKKLNKALLRHCI |
| 12900 | 26801 | A | 13033 | 763 | 244 | FIGPRIIGLRHEISVETQDHKSAVRGNN THDNYENVEAGPPKAKGKTDKELYENTG QSNFEEHIYGNETSSDYYNFQKPRPSEV PQDEDIYILPDSY*L/CQNIDFCYWMIN IHCNFSTAKTRNQTKC*STVDWIKKMWY TYTIEYYAAVKK/DTKLTWEQKIKYHIF SLKSGS |
| 12901 | 26802 | А | 13034 | 326 | 58 | EHYKCNYCQKIFQKL*/HL*SKKHVYAE DKYYKYKDGVVPLLVSQIILYTFYTRGK P*SSCSNFVQNQIIYIGQKSCKCNKFGN TFFKKP |
| 12902 | 26803 | A | 13035 | 199 | 3 | RFIYNHKVCITTFLPHFYF*KLYL/WLG TVAHAWNTSTLGG*GGRIT*GQELETGL DNTARPHLHTV |

| 12903 26804 A 13036 94 448 SICATSMAFKOTEKTAVEFGVVVICTOR FIRTLKITTERTPCGESSKA\MOGGOVER FIRTLKITERTPCGESSKA\MOGGOVER FIRTLKITERTPCGESSKA\MOGGOVER FIRTLKITERTPCGESSKA\MOGGOVER FIRTLKITERTPCGESSKA\MOGGOVER FIRTLKITERTPCGESSKA\MOGGOVER FIRTLKITERTPCGESSKA\MOGGOVER FIRTLKITERTPCGESSKA\MOGGOVER FIRTLKITERTPCGESTKA\MOKGOVER FIRTLKITERTPCGESTKA\MOKGOVER FIRTLKITERTPCGESTKA\MOKGOVER FIRTLKITERTPCGESTKA\MOKGOVER FIRTLKITERTPCGESTKA\MOKGOVER FIRTLKITERTPCGESTKA\MOKGOVER FIRTLKITERTPCGESTKA\MOKGOVER FIRTLKITERTPCGESTKA\MOKGOVER FIRTLKITERTPCGESTKA\MOKGOVER FIRTLKITERTPCGESTA\MOKGOVER FIRTLKITERTPCGESTA\MOKGOVER FIRTLKITERTPCGASTA\MOKGOVER FIRTLKITERTPCGASTA | SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last a mino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|--|---|----------------|--|--|--|--|
| PR\LINEGUVEFASYGDLENALIEKLIGGK\ EINGKINLIKGSK\RESRESSEDSPUTEKP*OPUVERAR SREPEASKQUPVPVK*P*OPUVERAR SREPEASKQUPVPVK*P*OPUVERAR SREPEASKQUPVPVK*P*OPUVERAR SREPEASKQUPVPVK*P*OPUVERAR SREPEASKQUPVPVK*P*OPUVERAR SREPEASKQUPVPVK*P*OPUVERAR SREPEASKQUPVPVK*P*OPUVERAR SREPEASKQUPVPVK*P*OPUVERAR SREPEASKQUPVPVK*P*OPUVERAR SREPEASKQUPVRV*P*OPUVERAR | 12903 | | | | | | KPLEKVCADLITGKKFKNL/KVKGPVCM PTKTLKITTRKTPCGESSKA\WDGFQMR IQK*LTNLHSPSKIVKQIISISGAPGID |
| SPDLKSKHLIFCNNAF-VOYKLDRSER* PENGTLMPSILQDLANSCRKIGKNEEPY PENGTLMPSILQDLANSCRKIGKNEEPY PENGTLMPSILQDLANSCRKIGKNEEPY EVQAFF\SHQSLPSLCAQCNS/CPNLPS FPP\PPVSPUTESYTESF*SSTSDESD LSLPPQALLARPS*SFSTDESD LSLPPQALLARPS*SFSTDESD LSLPPQALLARPS*SFSTDESD LSLPPQALLARPS*SFSTDESD LSPPALTTPRAYSFIF*L/CPPPPAQ OFTIKKVGAKGIVKNAPPSISGIF*H LGSFSSNIKQOPS CFGCTSAHCKLHLCIN DSPASAS*VAGITGPATTPPLIFVYPFF LVETGFHVVGQSGLELPTD\SDEPPASD SQSVRITGVSH\AYLACSQP\CTRC*FP II*EQCNNMINSSK*IFILISYLYRMM NKDPI/VITERLUSYTSCGVSVRPNLSIP *VFPSTK*BEGMKVAPSTIT*FIPQVA **TCQEHGLMKIQT*NPGLDPSIVSDHQT CFEVXCVULISHKEMSLEELIKCR HTLASGKQISGVPRTIFLNHPHGFYFIY CFEVXCVULISHKEMSLEELIKCR HTLASGKQISGVPRTIFLNHPHGPYFIY CFEVXCVULISHKEMSLEELIKCR HTLASGKQISGVPRTIFLNHPHGPYPIY CFEVXCVULISHKEMSLEELIKCR HTLASGKQISGVPRTIFLNHPHGPYPIY CFEVXCVULISHKEMSLEELIKCR HTLASGKQISGVPRTIFLNHPHGPYPIY CFEVXCVULISHKEMSLEELIKCR HTLASGKQISGVPRTIFLNHPHGPYPIY CFEVXCVULISHKEMSLEELIKCR HTLASGKQISGVPRTIFLNHPHGPYPIY CFEVXCVULISHKEMSLEGISHKENSTENST CFEVXCVULISHGSVPCVMCMPVVPATWEAG AGGVLEPGS*EL*/CPUNSHCPPAMAT TPUIDALWEAG/AGGSPEVXS TPUIDALWEAG/AGGSPEVXS TPUIDALWEAG/AGGSPEVXS TSVXS*AFSPENDENST LQK*SK*15GHESSA**KEPPFISULSV TSVXS*AFSPENDENST LQK*SK*15GHESSA**KEPPFISULSV TSVXT/SAIHPPHHEMNTQVPYQLIP LHNQTHENSTHANDANSSRPCKDDIKH GRAFFQCHGTFFRRETARV LGGYLNGDSKYMRPPSKDGSYVNLDS CVDDTNNPKIFVVPDANGYDSHINGI GRAFFGTSKARKRGVPQIN EQGGALGATSGQAPPCPPRQPMRLDAS KRAAAVAPPKKVGFKAVSRPPRABALGG KGSP\GGRGSLAGATSGQAPPCPPRQPMBLDAS KRAAAVAPPKKVGFKAVSRPPRABALGG KGSP\GGRGSLAGATSGQAPPCPPRQPMBLDAS KAAAVAPPKKVGFKAVSRPPRABALGG KGSP\GGRGSLAGATSGQAPPCPPRQPMBLDAS KAAAVAPPKKVGFKAVSRPPRABALGG KGSP\GGRGSLAGATSGQAPPCPPRQPMBLDAS KAAAVAPPKKVGFKAVSRPPRABALGG KGSP\GGRGSLAGATSGQAPPCPPRQPMBLDAS KAAAVAPPKKVGFKAVSRPPRABALGG KGSP\GGRGSLAGATSGQAPPCPPRQPMBLDAS KAAAVAPPKKVGFKAVSRPPRABALGG KGSP\GGRGSLAGATSGQAPPCPPRQPMBLDAS KAAAVAPKSCUGSLASCAGA KAAAVAPKSCUGSLASCAGA KGSP\GGRGSLAGATSGQAPPCPPRQPMBLDAS KAAAVAPPKKVGFKAVSRPPRABALGG KGSP\G | | | A | 13038 | 964 | 1717 | PK\LNEGVVEFASYGDLKNAIEKLSGK\ EINGKNINLIKGSK\RPSRSRSRSSDPG TQKSPLGPRSRSPSPVVRKP*QPVQEAR SREPGARSQVPVPVK*GPPPCPEKEPQK \RGSLQSKILSPPSILWIRPEVSGPRSK |
| DSPASAS*VAGITGPATTPPLIFVYFFF LVETGFHHVGQSGLELFTD\SDEPPASD SQSVRITGVSH/AYLACSQF/CTRC*FP II*EQCVNNMINSSK*FFILISYLXRWM NKDPI/VIIERLLVRMPEGQSHAAW*NK TINKQT*ILELVLSVTSCCVSVRFNLSIP *VFPSTK*EGWMRCVNPSTLT*FILOVA *TCQEIGLMKIQT*NPGLDPSIVSDHQT Q*EPSVKQVLDISHDKLFMSLEELLYHCR HTLASGKQISGVPRTIFINHFHGFYFIY /CIFFSCSVS/SQAG/VQWMFUSLLQA RS/PGSR/RFSCLS/LPVQHPPPGPANF \CIFSGBVSPC*PGWSQSPDLVIR RS/PGSR/RFSCLS/LPVQHPPPGPANF \CIFSGBVSYCMPVVPATMEAG AGGVLEPGS*EL*/CPVNSHCPPAWAT 12908 26809 A 13042 2 431 HDPDTHISQIKVIKLMQSSFCWGWAV*LT PVIPALMEAR/AGSPEVRS 12909 26810 A 13043 405 1319 RYRKKLQNKPLWH/CLLLLPNSATR*T LQK*SK*ISPLESSA**KEPFFLSVLSV TSVKT/SAIFMPPHENVNTQVYQLIP LHNQTHEYNEVANLFGKTMDRNRIKRIQ RIQNLDLWBFFCRKKAQLKKRKGVPQIN EQMLPHGTSSEFVEAICHNTDWRINGI HGAVFGKGTYFARDAAYSSRFCKDDIKH GNTFQIHGVSLQRHLFRTYKSMFLARV LIGDYINGBSKYMRPPSKDGSYVNLYDS CVDDTWNPKIFVVPDANGIYPEYLLDPH *FHFQISVVKEALFFFAGRFALQSSH EGGEALGATSRQAPPPCPPRQPWELDAS AKAAAVAPPKKVGFKAVSNDPRAEALGG KGSP\GKGSLKGVAHR*GGLGPL*GAP EAGEALGATSRQAPPPCPPRQPWELDAS AKAAAVAPPKKVGFKAVSNDPRAEALGG KGSP\GKGSLKGVAHR*GGLGPL*GAP EAI 13045 172 16 AHVSPEVDKTKFW\LGPVAHICNSSTLG | | | A | | | 725 | SPDLKSKHLIFFCNAA*PQYKLDRSSK* PENGTLNFSILQDLNNSCRKIGKWSEVP EVQAFF\SHQSLPSLCAQCNS/CPNLPS FPP\PVPSVPTPSVTESF*SSFSTDPSD LSLPPQALLLARPS*VPILPQPPLLHPI ILLSPPLLTPRPAYSFIP*L/CPPPPAQ QFTLKKVAGAKGIVKVNAPFSLSQIR*H |
| AGGVLEPGS*EL*/CPVNSHCPPAWAT | 12906 | 26807 | A | 13040 | 1131 | 2 | DSPASAS*VAGITGPATTPPLIFVYFFF LVETGFHHVGQSGLELPTD\SDEPPASD SQSVRITGVSH/AYLACSQF/CTRC*FP II*EQCVNMNINSSK*IFILISYLYRWM NKDPI/VIIERLLVRMPEGQSHAAW*NK TNKQT*ILELVLSVTSCGVSVRFNLSIP *VFPSTK*EGWMRCVNPSTLT*FIPQVA *TCQEHGLMKIQT*NPGLDPSIVSDHQT Q*EPSVKQVLDISHDKLPMSLEELYHCR HTLASGKQISGVPRTIFLNHFHGFYFIY /CIFEMESCSV/SQAG/VQWRDLSLLQA RS/PGSR/RFSCLS/LPVQHPPPGPANF |
| PVIPALWEAE/AGGSPEVRSS | 12907 | 26808 | A | 13041 | 97 | 626 | 1 |
| LQK*SK*ISPLESSA**KEPPFLSVLSV TSVKT/SAIPMPPHWENVNTQVPYQLIP LHNQTHEYNEVANLFGKTMDRNRIKRIQ RIQNLDLWEFFCRKKAQLKKKRGVPQIN EQMLFHGTSSEFVEAICHNFDWRINGI HGAVFGKGTYFARDAAYSSRFCKDDIKH GNTFQIHGVSLQQRHLFRTYKSMFLARV LIGDYINGDSKYMRPPSKDGSYVNLYDS CVDDTWNPKIFVVFDANQIYPEYLIDFH *FHFQISVVKEALFFFAGRFALQSSSH 12910 26811 A 13044 23 450 RSRAAAIQLGQRLRLPGPDSPRLTGRQL EPGTGRGSRAKRGPCSIFRFRRETPPQR EGGEALGATSRQAPPPCPPRQPWELDAS AKAAAVAPPKKVGFKAVSRDPRAEALGG KGSP\GGKGSLKGVAHR*GGLGPL*GAP EAI 12911 26812 A 13045 172 16 AHVSPEVDKTKFW\LGPVAHICNSSTLG | 12908 | 26809 | A | 13042 | 2 | 431 | 1 |
| EPGTGRGSRAKRGPCSIFRFRRETPPQR EGGEALGATSRQAPPPCPPRQPWELDAS AKAAAVAPPKKVGFKAVSRDPRAEALGG KGSP\GGKGSLKGVAHR*GGLGPL*GAP EAI 12911 26812 A 13045 172 16 AHVSPEVDKTKFW\LGPVAHICNSSTLG | 12909 | 26810 | A | 13043 | 405 | 1319 | LQK*SK*ISPLESSA**KEPPFLSVLSV TSVKT/SAIPMPPHWENVNTQVPYQLIP LHNQTHEYNEVANLFGKTMDRNRIKRIQ RIQNLDLWEFFCRKKAQLKKKRGVPQIN EQMLFHGTSSEFVEAICIHNFDWRINGI HGAVFGKGTYFARDAAYSSRFCKDDIKH GNTFQIHGVSLQQRHLFRTYKSMFLARV LIGDYINGDSKYMRPPSKDGSYVNLYDS CVDDTWNPKIFVVFDANQIYPEYLIDFH |
| | 12910 | 26811 | A | 13044 | 23 | 450 | RSRAAATQLGQRLRLPGPDSPRLTGRQL EPGTGRGSRAKRGPCSIFRFRRETPPQR EGGEALGATSRQAPPPCPPRQPWELDAS AKAAAVAPPKKVGFKAVSRDPRAEALGG KGSP\GGKGSLKGVAHR*GGLGPL*GAP |
| | 12911 | 26812 | Α - | 13045 | 172 | 16 | • |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible |
|--|---|----------------|--|---|--|---|
| 12912 | 26813 | A | 13046 | 181 | sequence 9 | nucleotide insertion YKWGPAMLPRLKCRAI\IGSNMAHCRLD LPGSSDPPSSASQVAGTTGTCHLGARGG |
| 12913 | 26814 | A | 13048 | | 3507 | YVRVSLPPPPPAAGRPGAAVADDAREEE BEAAPPPPPPPPRLAAARPPGSQPRPP AAGEAQAAADMNHQQQQQQKAGEQQLS EPEDMEMEAGDTDDPPRITQNPVINGNV ALSDGHNTAEEDMEDDTSWRSEATFQFT VERFSRLSESVLSPPCFVRNLPWKIMVM PRFYPDRPHQK\SVGFFLQ\CNAESDST SWSCHAQAVLKIINYRDDEKSFSRRISH LFFHKENDWGFSNFMAWSEVTDPEKGFI DDDKVTFEVFVQADAPHGVAWDSKKHTG YVGLKNQGATCYMNSLLQTLFFTNQLRK AVYMMPTEGDDSSKSVPLALQRVFYELQ HSDKPVGTKKLTKSFGWETLDSFMQHDV QELCRVLLDDVENKMKGTCVEGTIPKLF RGKMVSYIQCKEVDYRSDRREDYYDIQL SIKGKKNIFESFVDYVAVEQLDGDNKYD AGEHGLQEAEKGVKFLTLPPVLHLQLMR FMYDPQTDQNIKINDRFEFPEQLPLDEF LQKTDPKDPANYILHAVLVHSGDNHGGH YVVYLNPKGDGKWCKFDDDVVSRCTKEE AIEHNYGGHDDDLSVRHCTNAYMLVYIR ESKLSEVLQAVTDHDIPQQLVERLQEEK RIEAQKRKERQEAHLYMQVQIVAEDQFC GHQGNDMYDBEKVKYTVFKVLKNSSLAE FVQSLSQTMGFPQDQIRLWPMQARSNGT KRPAMLDNEADGNKTMIELSDNENPWTI FLETVDPELAASGATLPKFDKDHDVMLF LKMYDPKTRSLNYCGHIYTPISCKIRDL LPVMCDRAGFIQDTSLILYEEVKPNLTE RIQDYDVSLDKALDELMDGDIIVFQKDD PENDNSELPTAKEYFRDLYHRVDVIFCD KTIPNDPGFVVTLSNRMNYFQVAKTVAQ RLNTDPMLLQFFKSQGYRDGPGNPLRHN YEGTLRDLLQFFKPQPKKLYYQQLKMK ITDFENRRSFKCIWLNSQFREEEITLYP DKHGCVRDLLBECKKAVELGEKASGKLR LLEIVSYKIIGVHQEDELLECLSPATSR TFRIEEIPLDQVDIDKENEMLVTVAHFH KEVFGTFGIPFLLRIHQGEHPREVMKRI QSLLDIQEKEFEKFKFAIVMMGRHQYIN EDEYEVNLKDFEPQPGMMSHPRPWLGLD |
| 12914 | 26815 | A | 13049 | 30 | 477 | VRAEHCAVWERNFEETVRWTSVKFLMTS PEIASLSWGQMKVKGSNTTYKDCKVWPG GSRTWDWRETGTEHSPGVQPAAC\DVKE VVEKGVQTLVIGRGMSEALKVPSSTVEY LKKHGIDMRVLQTEQAVKEYNALVAQGV RVGGVFHSTC |
| 12915 | 26816 | A | 13050 | 179 | 389 | NIETIQSMFPI/DNEMKLEINLKKAIWG IHKYASQVLWFMPIFPTLWEAKVGEFLE PRSSRSVWETWRDPI |
| 12916 | 26817 | A | 13052 | 466 | 1489 | PGKGEMRTRSPSPLAIVPRPQRASRPLL CAVSPMASASGATAKHEQILVLDPPIDL KFKGPFTDVVTTNLKLRNPSDRKVCFKV KTTVPHRYCVRPNSGIIDPGSTVTVSVM |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion LQPFDYDPNEKSKHKFMV/QIFAPLNTS DMEAVMNEAKPHELMDSKWR/CPNENDK LNDMEPSKAVPLNASKQDGPTPQPHSAS LHDTETRKLTEECKRLQGEMMKLSEENQ HLRDEGLRLRKVAYSDKPGSTSTASFRD VTSLLPSLLVVIAAIFTGFLFFFWRRSL TLVAQAGVQRRDLGSLQPPSPGFKQFSH LSLPSSWDYRRPPPHPANFCIFSREGVS PCWPGWS |
|--|---|----------------|--|--|---|---|
| 12917 | 26818 | A | 13053 | 892 | 189 | SYDPGALGCRPAPRSGRGKGSGATRDMH PMSRERAKFVKSGL\YCKTTRELMLHAR CCLNQKGTILGLDLQNCSLEDPGPNFHQ AHTTVIIDLQANPLKGDLANTFRGFTQL QTLILPQHVNCPGGINAWNTITSYIDNQ ICQGQKNLCNNTGDPEMCPENGSCVPDG PGLLQCVCADGFH/GIQVYAPGLVLTAY VLRDSGSHHSIRLHSALGDPAPKSQDFM NYIGLTIDLRSI |
| 12918 | 26819 | A | 13054 | 423 | 12 | SFNQKNPLRQKCSLRPTRPASQSLATWP GQSTRFWEQALPWALWDPQSKRAE\MQL EPPHAHTWTHAHTCGHTGA\FCSAHTEV YVHLHSPVHAHTHAHTHSPPVHTCGCRL HAHTH\PQTPSPPGLLSLLAVARPQS |
| 12919 | 26820 | A | 13055 | 16 | 349 | RRSGKNDPWTDQSPRAAASHTRCPHPAV AAAAMPKRKTEGDAKGDKAKVKDESQKT S/ARMSSKSAASKAYAKPIKAPAMNGEN VPNGIQRKLEAFYDLQACRHLTRLIDFA |
| 12920 | 26821 | С | 13056 | 716 | 594 | MMQTETGVMPPQARQCLEPPGAGTGRKD SPLYPSEQSWPL* |
| 12921 | 26822 | A | 13057 | 353 | 2 | IGNPGKTTFNKPPPPKKFIFSKFFMFLF FLVKTRSCYVAQAGLQTPG\SSDPSASA NQSAGITGVSHHTQSEILKYTVFCLTFQ TPEYTIPSTWSIPCCSHFSCYLCFLFAC FLRQSF |
| 12922 | 26823 | A | 13058 | 864 | 529 | EVSTSKTAGCRGCALVISMLCIIFPQGL FTRALLRTCSALLHADWPEISFVVVVVF FKTESCSVAQDGVQWCDLRSLKPPPP\G SSDSPASASPVAKITGMHHHARHGLKS |
| 12923 | 26824 | A | 13059 | 2714 | 1376 | GRYDGLVEQLGGRATPAVGFAMGLERLV LLVQAVNPEFKADPVVDIYLVASGADTQ SAAMALAERLRDELPGVKLMTNHGGGNF KKQFARADKWGARVAVVIGESEVANGTA VVKDLRSALAVGVILGVGALIGWRYWNS HQVDSARSASLAYQNAVTAVSEGKPDSI PAAEKFAAENKNTYGALASLELAQQFVD KNELEKAAAQLQQGLADTSDENLKAVIN LRLARVQVQLKQADAALKTLD/TPIKGE GWAAIVADLRGEALLSKGDKQGLLSVTL LSGCSLFNSEEDVVKMSPLPTVENQFTP TTAWSTSDGSGIGNFYSNLHPALADNVV YAADRAGLVKALNADDGKEIWSVSLTEK DGWFSKEPALLSCRVTSVWPNNQTEKFN KQRTEGPAVAEPEQAGVRRHYLYPFTGG YRRRAACQAERPAARCATEEHGSRN |
| 12924 | 26825 | A | 13060 | 99 | 254 | RNHHLVAFKELSALKVKRVDWAPWLMPV IPAF/LEAKVGRSLEPRSSRPAWAT |
| 12925 | 26826 | A | 13062 | 127 | 386 | FSYYYYFFFLFFLCVFV1PGEPFLKMKL GKPKTIMLKEKKGGESYSELFFETDQME |

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|--|---|----------------|--|---|--|--|
| 12926 | 26827 | A | 13063 | 1 | 209 | WL/TPVIPTLWEAEVGGSFEHRSSR GKYILLLKVFCCFLRQGLCHLAHCSLRL |
| | | 11 | | | | PGSSDSRASASQVAG/ISITGVHHHARL NFVFCFFFLVCFCF |
| 12927 | 26828 | A | 13064 | 132 | 1 | SHAMCCNYLKRFGWARWLMPV/IPALWE AEAGRSPEVRSSRSAL |
| 12928 | 26829 | A | 13065 | 269 | 134 | TLWSVFASS/WAWWLTPVILAPWEAKAG GSPEVRSLRICKQKVLS |
| 12929 | 26830 | A | 13066 | 853 | 461 | RLWRSVSQFLCACVHMCVPSVCVCGLAH AGTYAVSTCVH/MCVCVCMCARITLAKI CSETSGNLLFRKIISLLDLFTLNFSIKY KVQLVLKSRSLAWWGRIKLLTLSRPFSD VNTFERINYWLINDISIIR |
| 12930 | 26831 | A | 13067 | 57 | 2066 | AQPTGRQTSTVAPTPATARSRGGRVPIF PCPHPAPTILISTSRVVTPASPAASMKAL RLSASALFCLLLINGLGAAPPGRPEAQP PPLSSEHKEPVAGDAVPGPKDGSAPEVR GARNSEPQDEGELFQGVDPRALAAVLLQ ALDRPASPPAPSGSQQGPEEEAAEALLT ETVRSQTHSLPAAGEP\EPAAPPRPQTP ENGPEASDPSEELEALASLLQELRDFSP SSAKRQQETAAAETETRTHTLTRVNLES PGPERVWRASWGEFQARVPERAPLPPPA PSQFQARMPDSGPLPETHKFGEGVSSPK THLGEALAPLSKAYQGVAAPFPKARRPE SALLGGSEAGERLLQQGLAQVEAGRRQA EATRQAAAQEERLADLASDLLLQYLLQG GARQRGLGGRGLQEAAEERESAREEEEA EQERRGGEERVGEEDEEAAEAEAEE AERARQNALLFAEEDGEAGAEDKRSQE ETPGHRRKEAEGTEEGGEEEDDEEMDPQ TIDSLIELSTKLHLPADDVVSIIEEVEE KRNRKKKAPPEPVPPPRAAPAPTHVRSP QPPPPAPAPARDELPDWNEVLPPWDREE DEVYPPGPYHPFPNYIRPRTLQPPSALR RRHYHHALPPSRHYPGREAQARHAQQEE AEAEERRLQEQEELENYIEHVLLRRP |
| 12931 | 26832 | A | 13068 | 282 | 53 | PGFPQGKFRFKKKILPQDYPFQGAPNSK ARPGQGVPPGIPA\LWRVKKGGPLRSGG PGPPGAKGGTPFLPIPNTKKS |
| 12932 | 26833 | A | 13069 | 177 | 2 | VSLCRPGWMECSGVISAHCNLRLPGSSN S/PALASRVAGITGARHHALLNSLFKVL SRA |
| 12933 | 26834 | A | 13070 | 789 | 302 | PHPEFYYSFQYFIYFFISFHFTRHFIVH YFISSHFISCHLASSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS |
| 12934 | 26835 | A | 13071 | 193 | 2 | PPYLKSHSQVDLSPGVQDQPGQHRETPS /LTKN/TKVSWVWWCTPVIPARWEVEVR ESLEPRCSTRA |
| 12935 | 26836 | A | 13072 | 122 | 1495 | LLSDFFFFETE/SRSIAQACMQWCYLSS LQSLPPGFKRFSCLSLPSSWDDRCPPPC LANYCIFSRDRVLPCWPGWSRTPDLR |
| 12936 | 26837 | A | 13073 | 178 | 347 | CCLCNDNSVLLCMYYLLVCMHACMHALY IKTWK/MQLGAVSHACNPSTLGGQGEWI T |

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|--|---|----------------|--|--|---|--|
| 12937 | 26838 | A | 13074 | 165 | 34 | FILSFPFETVSYFVAQAGVQW\LIIAHC SLDLPRSSDSPTSAP |
| 12938 | 26839 | A | 13075 | 205 | 105 | GGWVQWFMSIIP/AIWEAKAGGLLEPRN SRPVWAT |
| 12939 | 26840 | A | 13076 | 3 | 357 | HEREYTQAEKRKFIAFFFFKMGSCSVIQ ARVQRHDLSSLQPP/RVAGTTGTHYHTW LIFVFSRTDSRLPSSPRSPLTSVISLII PLSLIPTTYLTTPSRPSSTSPPSHPSFR APLTSDP |
| 12940 | 26841 | A | 13077 | 3 | 477 | STPALTARGLSGGSRASVAAMVLLESEQ FLTELTRLFQKCRTSGSVYITLKKYDGR TKPIPKKGTVEGFEPADNKCLLRATDGK KKISTVVSSKEVNKFQMAYSNLLRANMD GLKKRDKKNKTKKTKAGSNSS/ATTAAP AAAATAATTAATTAATAAQ |
| 12941 | 26842 | A | 13078 | 1077 | 1566 | RQVTSLDPLKTFPRTSLEFTSPTGQLDS GATAFTVVWPSGAPTPRGRESAAHQGN/ YPVGQRS\RMAGLSPRSFCWWEVSFSR/ SHSC/ICWVQLGKSAVLPQQSRGPGAHE GSRRRGGSSPPCPPLQTQLVFSPQELSM SAPIHRLSVTLQGDCISTGGAPSRCRLA |
| 12942 | 26843 | A | 13079 | 3 | 396 | HERGRKMVSVT\RLIQRLRNWASGHDLQ GKLQLRYQEISKRTQPTTKLPEGPSHKL FNNYY\CTRDGRRESVPPFIIMSSHKAL VSRMPAYSFAEAATDKKAVTPAPSIYRG EQSSDHPYLRHCTLTVTRLL |
| 12943 | 26844 | A | 13080 | 467 | 109 | SLVPVVSPHLKEPSCRYLIENVMLVPKE QEFWSKEAGSLFSPPVPFYCWTPSIVFS SSFFFLFRCVCFFFFFFCFFFFF\LLF FGTKKALYLLRARGCKQYKNQKLIWYLT FLSLLVK |
| 12944 | 26845 | A | 13081 | 458 | 51 | VSLFCTVAPLLLLPEGIFFSCSLLEVKA PMRDVSGVFLTLFLYSVLFFPLGVFFFL FFFLILPPPKIFFFFFVCVALFFFSPAF GAVFLF\SLWSSVLPGVGFFTACSFFFF FFFFFFFFLRQSFALVAQARMQWR |
| 12945 | 26846 | A | 13082 | 23 | 327 | RSDSEGGRRGHKYIFIPIYTHTHTYIFI YTQIYICLHIYACLS/LICTHIFISIYI HTYIYISIYAHIYLYIHTHIYLHIYTHT YIYIYLHIHIYSSWVCKGS |
| 12946 | 26847 | A | 13083 | 352 | 153 | KKLVEYYSAIKKNSVLIH/VSTWMRLKN ITLSLKTQSQRHLYYIIPSVRNVQNRQV HKYRSRLVDSED |
| 12947 | 26848 | A | 13084 | 121 | 417 | DYDYYCYYYPKIYLTKLLYFY\VGNYIY THIYVRHVYICETYMPVYTHIHTYICIY IYIWKETTWLFSCGISKTYRTHDLAYTY LVFCLTHVTFHVSST |
| 12948 | 26849 | A | 13085 | 242 | 12 | LSSRLPMLLETKEITSKILPSRKL/LPY GWCFKSFKITWVSQIRNRL\AQWLTTVI |
| 12949 | 26850 | A | 13086 | 274 | 340 | PQLWEA\SGLLKPRSRRPAWTTW GGEKKTPGGFLEKKSFFGGGIFGPPP/P TKRGVFPPSPKKFFFPPKTKNFGRGGP KIPPPKKDFFSKNPPGVFFSPP/YKKKK IIFPPPVKLGPPKDFLKSPPPFFFFYF FFFFFFSSQEVNLKALSSTSEIIFFYLV |
| 12950 | 26851 | A | 13087 | 241 | 405 | PPPSKIHIGNFRKMSDVKNATGWAWWLT PVIPARWEAEAG\VSLRPRNSRPAWAA |
| 12951 | 26852 | A | 13088 | 537 | 375 | KHSLTLSLRLECRGTILAHCS/L/CTSL |

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|--|---|----------------|--|--|--|---|
| | | | • | | | LGSSDLSLQPQQIAGTTGACHHTHLEKI F |
| 12952 | 26853 | A | 13089 | 448 | 186 | GALVFPSSQAPPCPPKMEQSFFFFFFFL ETGSRSVSKAGVQLHHGSLQPPPPGFER SSHFSVTTI/TYLYHHRLALHVFELHIN GIMHR |
| 12953 | 26854 | A | 13090 | 365 | 191 | GQEREKEREREKRRQKKREVE/REEEKE RVRDLESESNRALERERSALVDRAPLSR PG |
| 12954 | 26855 | A | 13091 | 148 | 316 | DKMESCSLAQTGVQWHD\LG\YLQPSPL GFKRFCLSLSSSWDYRWETSTEPFQQAV F |
| 12955 | 26856 | A | 13092 | 712 | 229 | FVAWVKMAEYLASIFGTEKDKVNCSFYF KIGVCRHGDRCSRLHNKPTFSQEVFTEL QEKYGEIEEMNVCDNLGDHLVGNVYVKF RREEDGERAVAELSNRWFNGQAVH/GEC TRGGFCNFMHLRPISQNLQRQLYGRGPR RRSPPRFHTGHHPRERNHRVFP |
| 12956 | 26857 | A | 13093 | 835 | 405 | ELIERLGPNQKPPILMWKPMPSPSNMKA SAALLCLLLTAAAFSPQGLAQPVGINTS TTCCYRFINKKIPKQRLESYRRTTSSHC PREAVIFKTKLDK\EICADPTQKWVQDF MKHLDKKTQ\TPKLLNIHDWNLENQAMT LRKPN |
| 12957 | 26858 | A | 13094 | 1137 | 424 | LCPSHFAPTTLTQPGAHKNMCCIKSRFK RDLGLCRTCLVNKMFTSSILGKSHRHSL VSINQGNNALWKAAG\PLSWKAGYC\QG FSPCDSLKYG\SWDEKDLTVPQPDTHKG SVLRWISKRGKPLAVEIEGRATGLPGLA PWGTE\CLGYKTPIV\HLFNSEMG\ENR PYGGEARHVCSNAALLFFTPLRCLGGEK HKSGLRAHPVIVLSLELNYDIDSFAHMF FADLLLIITLLSCYIPFC |
| 12958 | 26859 | A | 13095 | 1 | 324 | ARGERERERERERERERERERERERERERERERERERERE |
| 12959 | 26860 | A | 13096 | 508 | 840 | DGVSLCRPGRTADCSGAISAHCKLRFPG SRQSPGLSLPSSWDYRRLKPMRPANFFF CIFF\VKTGFHLVSQ/AMGLDLLNS/SI PPRLGLPKCW\DYRREATAPGQELLLNR TGM |
| 12960 | 26861 | A | 13097 | 53 | 254 | WPQTASCLVAQAGVQWSDHSSLQRQTPG \SSHPPASASQVARITGMHHCAWLHLII LLRAHGSSPLC |
| 12961 | 26862 | A | 13098 | 329 | 67 | GPGAPLLKGEKLLPKEPPPRISPIVSAF FAWGPPPGYCFLKKGGPFF\VFPPSFFG KKKNSPPPPHINGGAKTFPNPPLLFSSF FFF |
| 12962 | 26863 | A | 13099 | 253 | 444 | EGAFSLGTFYFIFFLVLSNTFLLSIKNQ QIWNKKTVW\PSPFLPTLIALTTLLLPI SPFILIIL |
| 12963 | 26864 | A | 13100 | 341 | 590 | PMASSQICIGRIPPFLYLKWYFWPGKVV HTCNPKTLGGRGALITQGQKFENSLAN\ MAKPHLY |
| 12964 | 26865 | A | 13101 | 55 | 184 | RLREPTPLYSE/HAPTKYYRMAHHNYPH SPPIPQPRHHYRVFLL |

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|--|---|----------------|--|--|--|---|
| 12965 | 26866 | A | 13102 | 433 | 762 | RNLLNCKRGLERKGCRASWPAVPLFLQR RVWPRPTAELNEACMLAQHQNCQNVKME YFQLSFTKRQEI/WLGVVAHACNPSTLG G\QGGGIACSQEFKTIPSSKVRPCFYLK |
| 12966 | 26867 | A | 13103 | 349 | 250 | DLFFSTKPPPPPPPPPKNLGPP\GPFGPP FQEG |
| 12967 | 26868 | A | 13104 | 3 | 236 | YPOHYPSCPTFQYTLKTKNHNFLIFFEV GSCSVVQARVQWCHHGSLQPP/NSSDPP ASAFQVAGTPGVSHRAPPKNQNF |
| 12968 | 26869 | A | 13106 | 154 | 4 | KKVKNTVHYNGKYFLKSQNQSTFLKEIL /WLGGVAHTCNPSTLGGRSGRIT |
| 12969 | 26870 | A | 13107 | 391 | 150 | RPPKKPNKKYSQITSKGIKMVYTRKYLT QKKKAMSQALWY/V/HAVPATQEAEVGG SCEPGSSRPRCTMIMPMNTHCAPAWAT |
| 12970 | 26871 | A | 13108 | 90 | 252 | KVGDGGRCLVFCFYFKRQGFTVAQAGVQ W\ATIAHCSLKLLGSSDPQNYEDSWGT |
| 12971 | 26872 | A | 13109 | 197 | 414 | LYEFIKITVLLGLGCPLGRYGCSNQRFF SLEMEFHTVAWARVQWHDLDSLQPLPPR PNRFSCLR/YPQSSWDYR |
| 12972 | 26873 | A | 13110 | 2 | 317 | GRVGANVHKGHRQRTYGSVIPHILPLHV LKKTFSLRDFHFSVSLKK\NLVLTCLHL FL/GVRTPRNDPFVSMMLLFTAFLDRPS TILGTGLLYTEGLTVALRLAYLR |
| 12973 | 26874 | A | 13111 | 413 | 162 | LILLPQPAECLQLQASAATLDCLGLPRC RDCRRSLVHSVLNGAQAGVQWRDLGSLQ PPPPS\TCLGLPKYRDCSLCPAATPSGK |
| 12974 | 26875 | A | 13112 | 40 | 296 | ESRLSALYIYHICVCVYNREHLLYGIHM /SIHTYTHTHTHTHIYIHMRAFALEDKF ICSLLCSRQDNAFILVSVKLQRKNYFLT RR |
| 12975 | 26876 | A | 13113 | 2 | 288 | FEPRCKNSARGKVPRGFSPNLPHVTVET PEGSKTGFELESR/RRHRQIHSSAQCPL TAVPGAGDAIPEDASGWHTWLPLHAQNC FLLYIQAPEQPPA |
| 12976 | 26877 | A | 13114 | 685 | 340 | LSPPRAGSARPTGPPTDAPGQRSTWTCG ALKPRRRALRDAAENLFQELQEHFQALT ATLNLRMEEMGNRIEDLQK\NVNDL\MV QAGIENSIKEQMLKTVTANMSVFGDGAS YRSH |
| 12977 | | A | 13115 | 65 | 3021 | GVLTQMGDEKDSWKVKTLDEILQEKKRR KEQBEKAEIKRLKINSDDRDSKRDSLEEG ELRDHCMEITIRNSPYRREDSMEDRGEE DDSLAIKPPQQMSWKEKVHHRKDEKRKE KCRHHSHSAEGGKHARVKEREHERRKHH REEQDKARREWERQKRREMAREHSREER DRLEQLERKRERERKMREQQKEQREQKE RERRAEERRKEREARREVSAHHRTMRED YSDKVKASHWSRSPPRPPRERFELGDGR KPVKEEKMEERDLLSDLQDISDSERKTS SAESSSAESGSGSEEEEEEEEEEEGS TSEESEEEEEEEEEEETGSNSEEASE QSAEEVSEEMSEDEERNHLLVGKN LPGDRVPVPESRFDRDSGESEEAEEEVG EGTPQ\SSALTEGDYVPDSLPLSPIELK QELPKYLPALQGCRSVDEFQCLNRIEEG TYGVVYRAKDKKTDEIVALKRLKMEKEK EGFPITSLREINTILKAQHPNIVTVREI VVGSNMDKIYIVMNYVEHDLKSLMETMK |

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|--|---|----------|--|--|--|--|
| 12978 | 26879 | A | 13116 | 469 | 202 | CIKIFFEE MIIIVGLCEYTKSAVLVQHSDPLPPAPG VFFLAVLDVVDIKIVVHPVFCLFVCLYE MESCPVAQAGVQWRDLGSLQPPP\PGSS TSCF |
| 12979 | 26880 | A | 13117 | 193 | 383 | AARMASTFFVFWFWFSTF\SLYSICVCV CVCVCVCVCRMHTVQLYFFQVGCQCSSL LNPLFPMN |
| 12980 | 26881 | A | 13118 | 146 | 350 | HYLVKFLLLAHPGSKAPPLNTLQPPPLA TREQPPLTVIFHYPPTSYKMAP\PYLPS LTLFGLSPPAPR |
| 12981 | 26882 | A | 13119 | 124 | 254 | HALLQTLRDLSQAWWHALVIPATW\EAE AGGSLEPRSSRPAWAT |
| 12982 | 26883 | A | 13120 | 150 | 45 | SLPRLECSFTVLAH/C/NLHLLGSSDSP ASASQVVGGI |
| 12983 | 26884 | A | 13121 | 336 | 446 | IPLKISSWAQWLTPV/IMPAVWEAEAGG SLEVRSSGPA |
| 12984 | 26885 | A | 13122 | 181 | 39 | QNLTAQDGVQWCDLGSLQPP\LPSSWDY RRESLCPSSFFIFWKRWGFT |
| 12985 | 26886 | A | 13123 | 463 | 2 | GPAVPSGLYLKGKPMRRLCASHSPESHS HDKGQGTLPRIPQ/PLLGEGGSR/PLAW GAVAGLPSNRPRIVPLPAPTRSGTRVRP HTGHQPGMSPGCGCESKWPHSAAAWPEA YPHFFLLPFPTQGCEVLGPLYTADPWVI CVSLLPSCPNSTAVDVD |
| 12986 | 26887 | A | 13124 | 429 | 263 | DHFSFLCVTGSQSVAQAGVQW\LIIAHC SLKLLASSDPPASVFQSTRITGPFLSFT |
| 12987 | 26888 | A | 13125 | 310 | 486 | NKKTTRGESSKQRQPRVSHHPGWGTVAP SGFTAASAS\RARVILLPRPPE |
| 12988 | 26889 | A | 13126 | 124 | 461 | GSPLQLLPSPLAALTRDCSEAPMGSCSV AQDGVQWRDLGSLQRLPPGFEPFSCLSP TPAP\FPSGWDYR |
| 12989 | 26890 | A | 13127 | 2 | 337 | RGAAPAAMAVTALAARTWLGVWGVRTMQ ARGFGSDQSENVDRGAGSIREAGGAFGK REQAEEERYFRAQSREQLAALKK\HHDE EIVHHKKEIERLQKEIERHKQKIKMLKP |
| 12990 | 26891 | A | 13128 | 681 | 422 | CRSDRWAKEHRGKRGQDSSKDVMARLME APKQTAQYFFIFYFFETKSYSVTQAGVQ WLDLGSLQRPPPG\SSDSPASASCAWPQ TAH |
| 12991 | 26892 | A | 13129 | 299 | 579 | LVMFCKVTKIERLNLWRPGTVAHVLWSQ HFGRPRWAVHVGWGVRDP/RLTQHGETP |

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|--|---|----------------|--|--|---|--|
| | | | | | | SLLE\NRNISQAWWCMPVVPATREAEAR ESLEPGGQRLQ |
| 12992 | 26893 | A | 13130 | 268 | 438 | KVDKSMKMRKNRPKNAENSKNKKASSPP NDCNSSPARVQ/SWTENEFDKLTEVGFR KW |
| 12993 | 26894 | A | 13132 | 1108 | 1529 | KIHSSFVLLNAKLVAVAAKTPKFYKKKT DLPQTYHSAQTAVPEIPVSAHSTFIRSF IHSFIFETESYSVAQAGIQWHDLPS\PP GS\SDSP\ASVSRVAGTIGVCQQAWLFF V\FLVET\GSFPHLSPLTMIRNKKQLFK KGH |
| 12994 | 26895 | A | 13133 | 497 | 370 | RPSTVSPRLECSGLILAHCS\LDPPASA SQTAETTYGHHHAS |
| 12995 | 26896 | A | 13134 | 217 | 373 | CNHTEITYVNKKKHRPGTVAH/SLYNPS TLGGQGGLITQAQEFDTSLGNMTLS |
| 12996 | 26897 | A | 13135 | 257 | 507 | PVSPGFPPL\CPVPHTPHLCPPCRYPES PGQPAAQHCGAPRQPQPNPRACSSRGLF RCPPACHHAPSCLLCVCPPLPQCCRVQG |
| 12997 | 26898 | A | 13136 | 137 | 309 | PSFPTHPQFCFLFCFLFVFETE/SSIVA QAEVQWCDLGSPDQGSSASPPSASSLPL SIW |
| 12998 | 26899 | A | 13137 | 297 | 419 | GGSAVYYIWEIVQVLWLMPVIPT\WEAY AGGLFEPRSSRPA |
| 12999 | 26900 | A | 13138 | 213 | 492 | QVGINYQPPTVVPVGDLAKVQRAVCMLS NTTAITEAWGLPGAISSAKCALVHW\YV GEGMAVGEFSEAREDLAALEDYETCGPW NPVETEAERR |
| 13000 | 26901 | A | 13139 | 246 | 534 | DRVLPLLPRLECSSAILGHCP/APASQV TGTTGTHHHTQLIFLLYCWLCPPPLASE ASAESPPLLPRGFLCFSSTTSSITAIPA TTRDYVDVSRSGS |
| 13001 | 26902 | A | 13140 | 1 | 206 | SLEWPFFFSFSETGSHSFTQAIVQWCNH SSL\SPTSASQIAGTTGVHNHAQL/VFV FCFAFMSPQLSNSC |
| 13002 | 26903 | A . | 13141 | 164 | 582 | GLVLVNLYLRSYLMVFIYINSRLLQVTD ASRERRENESSWFCRSVCRM/PPVGPGP SCVHPCSPRGSISPCTPHCPLKTTQAPA \PPRPLPRVGPGPHLDQSCCVAARPLYD PILVAAHSSWPAPPSPVPVPQEDTEHGA G |
| 13003 | 26904 | A | 13142 | 235 | 367 | LALNTFCWLGVVAHACNPSTLGGQGEWV TRGQE\QANMAKTCLY |
| 13004 | 26905 | A | 13143 | 91 | 403 | GALQPATAPWEPLSGLAEAGAISPCLQG G/SGGRGASENRGCTRPGRVPGGRRLNR PRAWSSWPAPPAPGSERPSAINCPRAEE CGRRVWDWQAALPAAPAWVPV |
| 13005 | 26906 | A | 13144 | 558 | 147 | GHSFQNWLLGCPLQLQRHLLHPPDASEE CGSPPWTPLRPHIHPSAGPHGSTHK\HA GGCLFPLRPSPTHPCGPPVPLPWSQ\QA PLCPHPPIHSPHDWECDPGKSALIPPPA AQSPSRLIKHAANEPECSPRNRRPGIP |
| 13006 | 26907 | A | 13145 | 321 | 421 | GCAQWLTPV/IPALWEAKAGESLLFRSL RPAWAI |
| 13007 | 26908 | A | 13146 | 3 | 398 | IELLQSHDKTLTDKKLLLLDEQRKWFLE MESTPGEDVNNVELTTKDLEYHINLDD\ KAGFERIDSNFERVSAVG/KMLSNSIAC YREIFHERSVKVANFTVAILPQPHKLSV TINLIIQQPSTLRQDLLLAKR |

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|--|---|----------------|--|--|---|--|
| 13008 | 26909 | A | 13147 | 228 | 261 | SKTQRSSEYYSLSVCVCVCVRVCIYIYI FFFFETEFLS\APQAGVQRCDLSSLRLP PP\GSSDSPFSTSQSAWDYRREPQRPTS LHYFVQLKHNLHRVKRRDLRNTTR |
| 13009 | 26910 | A | 13148 | 3 | 275 | KHLSDLQILRLGLSSKTRKTRYSHFAQG RSIFFLLRPSVDWIKPACMDGNLLFSKF TNLNVNI\TKKHPHRNVQNNVWPNVWAP WPKEVDT |
| 13010 | 26911 | A | 13149 | 218 | 382 | AWDHIKLESFYTAKETT/RMKRQPTEWE KIFANYPSDEGLVTRMYKELKOLYRKKI |
| 13011 | 26912 | A | 13150 | 391 | 29 | FCFLFLFMFLFFFEMQDGVQWCNLSSPQ PPPPG\SSHSPASASQVVEAENCLNPGG GGCSLGDRARLPQRKRERERETERKRKR ERASCAFCGAITFVNMWCQKHHTCNHLP WLTVFETNKL |
| 13012 | 26913 | A | 13151 | 351 | 157 | FGYSRFLCVYINFRTNLSIYNYICIYIN LYL\NIHTYTLIYTYVHTYTHIHIFYIY IGILTGIT |
| 13013 | 26914 | A | 13152 | 402 | 111 | TFFGGEKPPFTLRPGPPRREGGGGPPGP REGGFFRVPLGAFGPSRPK/RPEKSGPV WAPQIFLWGGKSRAIKESGKGFFFSRIT LLVFATEKKKKTTLF |
| 13014 | 26915 | A | 13153 | 310 | 141 | REHEKOKPLSOVRWCTPLVQAAQEAEAG GELEPRSSRLQCSMT\TPVNSHRPPARV T |
| 13015 | 26916 | A | 13154 | 153 | 21 | LNKCVISWLGAVAHACN/PSTLEGRWIT QGQEFKTSLGSLAKPHLY |
| 13016 | 26917 | A | 13155 | 429 | 275 | SVDIPLEKTLINKDVFKEAAFKCKVS/R QARVKFKKRYKPVKTKWFFQKLWF |
| 13017 | 26918 | Α . | 13156 | 303 | 42 | YRERAPVYPIIINIAFGPHKQ\TRAHTH THTHTRMHAHTHTHPAIIPAFAKNGLGT FHHKGRTYNDKVKPRLSCEAAIPSNLKS REFR |
| 13018 | 26919 | A | 13157 | 198 | 13 | SHGVAILLFFHFLNKRAFT\YSPAMNSS LCEIQEPSLG\SGSGPLSGNRMSGKGHR KYFAKI |
| 13019 | 26920 | A | 13158 | 192 | 2 | ISNSHRKDIKDPEVLLIEQKYILSGQMQ WLTPVIPAL/V/EAEAGRSLEFRSLRPA WATDRDSVSK |
| 13020 | 26921 | A | 13159 | 40 | 190 | RVDPRVRESRSVAQAGMQWRDLGSLQAP P\PGSRHSPASASQVALFLNRK |
| 13021 | 26922 | A | 13160 | 1 | 178 | PTMVLSPADKTNVKA/AWGKVGAHAGEY GAEALERMFLSFPTTKTYFPHFDLSHGV SSYL |
| 13022 | 26923 | A | 13161 | 411 | 41 | ESLQTCVGLHAKPSWDACRPWLGQAWFR YFLLTFLGPLVFLLVFWFSKIYFLYHLK NPSLSSCYNLD\FNTQYLKYCKKKKRLG AVAYACNPSILGSQGGRITRGQEFETRL GNMAKPDAWVDP |
| 13023 | 26924 | A | 13162 | 372 | 218 | FWKRSWISKKGLFKRGVSLSLSLS/CDT HTHTHTHTHTHAHSGYLCVLRKVK |
| 13024 | 26925 | A | 13163 | 247 | 89 | QGLVLSPWLKCRGGITAHCGLLGSSHPT TSA\QVAGTTGTQHHAQLKFFILIIL |
| 13025 | 26926 | A | 13164 | 122 | 409 | FPSTAIANSH/CSSPQGCSAYGVAIRLF LRSSNKLAL\LYGLAL/NSFFCNFQEPS \LGSLSGPLSDNKSNNLCCFKSPSSWLF AIAVLGNYYSLNTVRSGRRDPGTPNACS |
| 13026 | 26927 | A | 13165 | 69 | 313 | PSVSLFFPPNHNIVIHMGLLKINSIFGE |

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|--|---|----------------|--|---|---|--|
| | | | | | | GLALSSRMECSVTITVHCGLDLLGSGGP PSAAS/RVAVTAGTCHHSWLMFLSFV |
| 13027 | 26928 | A | 13166 | 310 | 26 | IKSMTPLPALNVSLSYYLPPLRPCRERG MVQDRFFCFLFCCCCFIFSETGSHSAAQ AVSQNKKTTGWAWWLTPVIPATHEAEAG \ESLERGRQRLQ |
| 13028 | 26929 | A | 13167 | 296 | 68 | KNGPLNLATKSLLILTMKCLGVVLGGKP NCSKLKKNKIKTKKWGWAPWLTPILPA/ LLEAEAGRSLEARNLRPVWT |
| 13029 | 26930 | A | 13168 | 2 | 235 | GATPCPREPSLFPLAGWAPLSCWAPPPH CTQGTTPPGLMGTG\APIAIIGGNARSP PMPFLPLSGTRRALSAQECPTF |
| 13030 | 26931 | A | 13169 | 248 | 406 | TERCGFDLLSLGQVQWLTSVIPALE/EA EAGELLESRSWRPAWATWQNLISLKK |
| 13031 | 26932 | A | 13170 | 33 | 308 | NSLQGAEMAAAQSSLFSASEGYRGERGR GRGRGPGRG/RSEGDRGGRGRPGRGG RKVLLLRICVWRRVLRLWNRGRIGVGGR VTYLMESEI |
| 13032 | 26933 | A | 13171 | 294 | 56 | ICKRNYLFFIYFLREGLTLLPRLECSGA ITAQCSL\GSSDPPTSASTVSGTTGACQ CALSSRDALISLCYPGWSQAPGLK |
| 13033 | 26934 | A | 13172 | 71 | 476 | DSLNYDNHIYQMPLIYINMGLAVTISLL G\ILVYRSHLISSLLCLEGIILSLFIIA TLITLNTHSLLSNIVPIAILVFAACEAA VGWEECGFRSRPTALILEGPLRSCQPRT CVRRPACTRRGPAFVGKNRHSIGG |
| 13034 | 26935 | A | 13173 | 86 | 318 | NNCNVCVCVCVCVCVCVCIHICIYV/YV YICIYTYKYICIYTYKYICICVYIHVYM YMCVYVYICICMCVYICIDSKGR |
| 13035 | 26936 | A | 13174 | 466 | 726 | NCMKFGAVTRIG\DLPWEINPLSSCSLL REKDPPTTSGPQTDQPKKHLTNFKSGKR PLFTLFSNLPHYPSTSFSFQSWRHTSIS PFS |
| 13036 | 26937 | A | 13175 | 128 | 325 | FLRVILICHKMYGCVCVCM/YACICNGM CIYMCVCVKSWKLKPELKCLCISDEVGW VLTQWAGREEN |
| 13037 | 26938 | A | 13176 | 134 | 311 | INSNSEKMGSHYVAQDGVE/WQGLFTGH GIAHCNLKLLGSSNFSASISQGAGTTGI VANG |
| 13038 | 26939 | A | 13177 | 577 | 1052 | SPTSTRTGSGVAMWLSQPMGRT\CRSKV ASKSRLHGPLIWAHPPIVRCPMLRHHY\ KAQAGRGLSLEE\LRVAGIYKKVAQTIG IS\EDARRRNQST\QALQAKVQRLK\ED RSSLILFPRK\PLAPKKGDSSAEELELD TQLTGPEMPIGNVYKEKARVIAD |
| 13039 | 26940 | A | 13178 | 496 | 678 | TLNFVWAQGLKITRPWKNAPVFPVIW\R LRRKNLLTLKGEICSDPKWPYCLPPWKT KKNLV |
| 13040 | 26941 | A | 13179 | 192 | 421 | GIYTFFLSFFLFLRQSLTLSPRAGVQWC NLCLPGSSDSPASASRVPG\ATGT\CHH GSANFLYFLVGDRVFGYVGPR |
| 13041 | 26942 | A | 13180 | 144 | 5 | LQLAIKLLKMRLGVVAHICNPS/TLGGW G\GRSQGQEFETSLANIVKP |
| 13042 | 26943 | A | 13181 | 351 | 51 | KKKKKIFFGTKKRRFFFLKGVWGPPPPK VSPPPPPKISPNPPKNNPLLKA/IKSPQ NWLFFFGPPSCKFFPPFFLNPKNSPWEN PPSGGEFSPKKKKKKSAI |
| 13043 | 26944 | Α | 13182 | 2 | 218 | IHFGCFVFLFFETEFCSCHPGCRAGVQW |

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|--|---|----------------|--|--|---|---|
| | | | | | | EITGMSHHACPIFKKHS |
| 13044 | 26945 | A | 13183 | 33 | 304 | EKHGIFRAVKILCMILQRWTYATHLSRP TGYTAPRVNPKLWTLGDNDVSM/SGSLI VTNTALGWGLLIRRSSACMGQGDMGNLC TFLSILL |
| 13045 | 26946 | A | 13184 | 277 | 13 | FSFFLIVEMGSCYIAQAGLELLGSSNPP SSASQSAGITGMSHHPAWLATLKRAFVS D\NSLSFPSSENAHLSILAGHFCLMGFF FFQ |
| 13046 | 26947 | A | 13185 | 140 | 361 | TTCCCVCIYTHIHTYVYVCVYIYTHTYI RVCV/YYIHTHTYIHIYIHVFIYIYIYT FMHTYIYPYVCMVLLQLTL |
| 13047 | 26948 | A | 13186 | 64 | 759 | CLSAESAPTSTMPMTLGYWDIRGLAHAI RLLLEYTDSSYVEKKYTLGDAPDYDRSQ WLNEKFKLGLDFPNLPYLIDGAHKITQS NAILRYIARKHNLCGETEEEKIRVDILE NQVMDNHMELVRLCYDPDFEKLKPKYLE ELPEKLKALTS\EFSGGKRPWF/SQGK ITFVDFLAYDVLDMKRIFEPKCLDAFLN LKDFISRFEGLKKISAYMKSSQFLRGLL FGKSATWNSK |
| 13048 | 26949 | A | 13187 | 41 | 426 | LFFFFFESGPCWVTQAGGRR/WNDHGSL QPGFPGLKGSPCLTLRRSWNYRPGMCRH TQLVFAFFFFPREKKFLLGAPTGFKTRG LRGPSRFGFQKGGNKGQEPPPRAKGLIF LEPERGQAFFGVFFGPTQ |
| 13049 | 26950 | A | 13188 | 39 | 197 | FFFLFKTRSCSFIQAGVQWCEHSSLQPQ TPG\SSAAPASASCKAGTTEAALKL |
| 13050 | 26951 | A | 13189 | 221 | 396 | GIQLQGAEGLWDVTNSPFCWRLYDQKTV YHECRMWANSHCP\PPKGLLRDITPRCW AP |
| 13051 | 26952 | A | 13190 | 2 | 826 | PGSTISSRRRGACGSRGGHFPSPRGGSG VASLERAESWSTEPAKAIKPIDRKSVHQ ICSGQVVLSLSTAVKKIVENSLDAGATN IDLKLKDYGMDLIEVSGNGCGVEENFK GL\TLSALKHHTSKIQEFADLTRVETFG FRGEALSSLCALSDVTISTCHVSAKVGT RLVFDHDGKIIQKTPYPHPRGTTVSVKQ LFSTLPVRHKEFQRNIKKRACFPFAFC RDCQFLEGSPAMLPVQP\AKLTPRSTPP HPCSLEDNVITVFSSVKNGPGSSR |
| 13052 | 26953 | A | 13191 | 235 | 1 | SPCARQCCPPNPAGQEPRRRLERGPGKW WPRSIKFPLPAV/RARFPLLPSAPLRQL VSGRVGGRVGRPGKAVQVSGGLN |
| 13053 | 26954 | A | 13192 | 2 | 386 | VIYLLLFFETESCCVAQARDGVSPCWPG WFQTPG\SSDLPASAPK/VAGITSVSHR TRPDVRGFKKC/GLQLEMSHLALLL/TT SHRFWYFVLLFSFVSKGFFIFFFLFFF FFLGKGFFFFFPRGGGGGQI |
| 13054 | 26955 | A | 13193 | 749 | 506 | GQTKAFVLSYCGASPSIKQ/PCPQAKDH PLEPSMHPEGTQLQSCSTMLGPRQLSSE KQPLLPPRSHLKSSPMLRACKGLTS |
| 13055 | 26956 | A | 13194 | 73 | 297 | RMPGFGALGSPFSCQRTECPC\AGAGSC TYASFCKCKEYKCTSCKKSECGAFPGNQ GAGQSQRREPRAQQAGAGQ |
| 13056 | 26957 | A | 13195 | 670. | 390 | PRETYIKPFARSIGCQPPKTIHPTSRRP STRPPARPHARPPVHTP/APSVHMSDRP |

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|--|---|----------------|--|--|---|--|
| | | | | | | STCPPSIH\RPPSTDVSRPQYSLSPSTS LALPGQSCLGR |
| 13057 | 26958 | A | 13196 | 2 | 438 | LSFTSIEFCHLLFLNQLICNYVIFTKSS TISCEALGRLLVVYPWTQRFFESFGDLS TPDAVMGNPKVKAHGKKVLGAFSDGLAH L\PPLKPTFATVSELHCAKLHVDPENFT LLGNVLVCV/MKHNFGK |
| 13058 | 26959 | A | 13197 | 57 | 499 | SPSWPRSSARPCSGHCLLPGLWDHGKAP CLRAARHSQGHGFRKGRKEGCGLWAAGW TKNPVPTWRAG/SRRGPGVTSPPPVPSV QNPP\PPQRRHGGSQATRPVLFTPPPKH MEGPNAPILGDQRITAPPPEILYRPPRA ATCDALRRG |
| 13059 | 26960 | A | 13198 | 34 | 465 | GILPYSPCVLRAPNSKRVRKCGCTTPRH L/CKATRKCGCTTPRAPLNETRKCGCTT PRHLSRQLGNAGALPRGHLNETRKCGCT TPRAPLNATRKCGCSTPRHLSRQLGNAG ALPRGHPLKETRKCGGATPADAFYETKK IGGGL |
| 13060 | 26961 | A | 13200 | 177 | 1075 | PTSSSMAFPKKKLQGLVAATITPMTENG EINFSVIGQYVDYLVKEQGVKNIFVNGT TGEGLSLSVSERRQVAEEWVTKGKDKLD QVIIHVGALSLKESQELAQHAAEIGADG IAVIAPFFLKPWTKDILINFLKEVAAAA PALPFYYYHIPALTGVKIRAEELLDGIL DKIPTFQGLKFSDTDLLDFGQCVDQNRQ QQFAFLFGVDEQLLSALVMGATGAVGST YNYLGKKTNQIV\EAFEQKDFSLALNYQ FCIQRFINFVVKLGFGVSQTKAIMTLVS GDSNGPTPASTCRKPPGEFT |
| 13061 | 26962 | A | 13201 | 35 | 464 | VQEFKTSLGNVAKPCLYKKKKKSPLGG GVPPPPKKTWVGGTLSPQKIRPAGPLIF PPPLPRGQQGEPLSPIKGGGGGGSS\YP PPPPPCLTGRA/PPPSPISAKSSPSPPP CQYVYHPPLLPLFFFLHALRRATAPLFL FLVRA |
| 13062 | 26963 | A | 13202 | 1153 | 259 | AGGVLRLGVVTGSRMASDSGNQGTLCTL EFAVQMTCQSCVDAVRKSLQGVAGVQDV EVHLEDQMVLVHTTLPSQEVQALL\EGT GRQPVLKGMG\TGQFSESGGQPVAIPGG GLGTVQGVVRFLQLTPERCLIEGTI\PG LEPGLHGLHVHQYGDLTNNCNSCGNHFN PDGAS\HGGPQDSDRH\RGDLG\NVGAN AAGGAFFRMEDEQLKVWDVIGRSL\IID EG\EDDPGAREGQSLYPKITRELPGSRL SCGI\IAKSAGLFPEPQSKICSCDGLT\ IWEERGRPIAGKG\RKESAQPPAHL |
| 13063 | 26964 | A | 13203 | 281 | 420 | VDGSKKYNEMPVIPALWEAKAGGLL\EP RKSRTAWATREDSVSTKN |
| 13064 | 26965 | A | 13204 | 3 | 1125 | SDSPQTPRMRVMAPRTLILLLSGALALT ETWACSHSMRYFYTAVSRPGRGEPRFIA VGYVDDTQFVRFDSDAASPRGEPRAP\W VEQEGPEYWDRETQKYKRQAQTDRVSLR NLRGYYNQSEAGSHTLQWMYGCDLGPDG RLLRGYDQSAYDGKDYIALNEHLRSCTA ADTAAQITQRKWEAARAAEQWRAYLEGT CVEWLRRYLENGKETLQRAEHPKTHVTH HPVSDHEATLRCWALGFYPAEITLTWQR |

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|--|---|----------------|--|--|---|---|
| 41 | | | | | | PSSQPTIPIVGIVAGLAVLAVLAVLGAV MAVVMCRRKSSGGKGGSCSQAASSNSAQ GSDESLIACKA |
| 13065 | 26966 | A | 13205 | 417 | 13 | GHPRVMLQCHMGSASLSIMTPPPIRSYQ PALTRSSATKPA\TSAPSITPMTPVTAN IS/VWPTANTTTTKLSNPTSS/STLSTP IWHPSILPAPPSTPAPLTTVTNSATTST ICFHVQLFQAHHCHHCIAAALEYTS |
| 13066 | 26967 | A | 13206 | 1139 | 559 | GLSELSIHPSVARVQEGHGATPERSIFW PGGKPRRGGRGTGLREWGGGSHRSLGQT KKKGAKAKRDHCAHGPIAAFQGPFPRAT QLLSPCHGCSWKENQPP*GPPGHACTAW EKTVTHGSCRPVTKPSPDPGFVGQAPGT KGNPAPGMDGCAGFRISCHPVPITKPLS NTGICVLLCYEFGFLIAIVGCWGFK |
| 13067 | 26968 | A | 13207 | 306 | 332 | ENGEIRIYIYICLYLIKKHWEEAGCGSV HL*SQHLKRLKWEDYLRPGVPDQPGQHR ETPSQKLNK*INNDF |
| 13068 | 26969 | A | 13208 | 48 | 233 | GKQNHLKCLWCRLLFLLSAVISRNVYIL T*LSLSLSQCVCVCVCVCVCVCVCVAIL ENYPR |
| 13069 | 26970 | A | 13209 | 250 | 2 | YCEGDLGSSRPGVSKCREFSPRRDKRIM PWPGAVTYAYNPSTLGGRDGWIA*A*EF ETSLGNIVKPHLYTHTHTHTHTHTHT |
| 13070 | 26971 | A | 13210 | 615 | 120 | SVFWPLLGGVSWSGYTEVRGPLEKAVCP LSELEYCAGRSAALFRAIRLFKDALSLL KLCPQPPFPLGAPLSP*EALVCVVPLHV STCLS*WCPTPCPPERSWCVLFPSMYPR VCPDGLLPPVPLRGPGVCVVPLHVSMCL LSLFNSLLRLRTCGVWFSVPVLVC |
| 13071 | 26972 | A | 13211 | 239 | 429 | FILLRNKLQPGTVACGCNPSTLGSQGKW IA*AQGFETSLDNMVKPCFYLPQLKKKK KIKNLGV |
| 13072 | 26973 | A | 13212 | 954 | 503 | VQLLPLCGRDLYLFAFNLPTYRCWQHFL SKPRAPILAGGSDRWPCPCCPFWLP*WC HVSAHAPQPFPCAKPEAPLPVGCPCSPA PSLEAALLILRAGLVVLRAPFCFSAHLL SCHSQCCQFPCSEKRSCLGGRDRHAASN PLSAVWPPGE |
| 13073 | 26974 | A | 13213 | 1844 | 1147 | LHSQIYSTAKKASLSMKGSRDKTRAASS RPVPSVLGVPPWSTLLQHPQNMWPGPAQ QQGQPSGRQAWCTPGEAPGAEAAPQ*QP HPEEDHSGGPQASAALALPPSPPSQRDV QGETGMQGRSAPRSASSSACCACRWSRL PCPQLLQRHPGLRLVSPAHSRPPGPAPS SSSGSGLVPGYLPQKGLAGLSAGAVLCP PGLLRVAHGAGYGPSAQMLHARLSSSL RGKRFLRF |
| 13074 | 26975 | A | 13214 | 413 | 60 | LCSKSCHGSFAMDCETLLTFPRLFYPIL HMPTVPGQALPVHTPFL*LKLPLLPGIP SCHSPLFLD*AQESPPPGGLPGHPPGSG VLCLWFHSLKHPVLSGSSVSTPGSASPS RSRAL |
| 13075 | 26976 | A | 13215 | 67 | 196 | GLSLSSPKVTHNATLMGCIFQN*KAFVY HSMKQKKIILLFNMA*P*YPLDFGEQWP LHGSHAYSTIL*LDLFCKKEEE*DEIPY |

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|--|---|----------------|--|---|---|--|
| 13076 | 26977 | A | 13216 | 161 | 2 | V*CFMLLWKSTTM*KKIILLFNMA SVFFLFIDRRLYLIKSVWAAYNSSTLGG |
| | | | | | | RGRRIT*AQEFKTSLGNKARPRVYQ |
| 13077 | 26978 | A | 13217 | 57 | 184 | CLTVCKDKVSLCYPGWSPVV*SYLTAAS NSWSKAILPPQPPE |
| 13078 | 26979 | A | 13218 | 292 | 400 | LKVKQGRGHLDLNQGPLDL*SNSLPLSH TPSHRRTV |
| 13079 | 26980 | A | 13219 | 186 | 394 | YLVLSFLFYFLFIFLSRVSLPIFFILEI |
| | | | | | | *LGIVAYTCNPSTLGSQGGRIA*AQEFD TSLGNIVRPPSLI |
| 13080 | 26981 | A | 13220 | 315 | 448 | KTKDLGVVDHVYNPSTFGG*GGRIT*GQ |
| 13081 | 26982 | A | 13221 | 3 | 13 | KFETSLDNRARSCLYK LRPLRSFVSVERLWASCCLGSELVVDKT KRKKRRELSEEHKQEIKDAFELFDTDKD EVIDYHELKVAMIALGFDVKKADVLNIL KDYDR*VIGKISFGHSIEIVTDFQL*R |
| 13082 | 26983 | A | 13222 | 1 | 715 | VDMHSRGSPELTHASTHASGKMAAPWAS LRLVAPMWNGRIRGIHRLGAAVAPEGNQ KKKRTILQFLTNYFYDVEALRDYLLQRE MYKVHEKNRSYTWLEKQHGPYGAGAFFI LKQGGAVKFRDKEWIRPDKYGHFSQEFW NFCEVPVEAVDAGDCDINYEGLDNLLRL KELQSLSLQRCCHVDDWCLSRLYPLADF VAGAFRWAGCPRIFRTGAKHGFHHLQ*D LSSGWATCPGTSPT |
| 13083 | 26984 | A | 13223 | 1019 | 1238 | LTGAEYKKSDGLTESVTANLEPEAPKVF SRLDDEAPVTVLPARLPLPAP*HTARPD PPQRRRSMQLAPARPFL |
| 13084 | 26985 | A | 13224 | 1534 | 1181 | RWNSEPDYSAGGPRAGRGARLLPVPKSP GGGGAVAPGPQTPLRAERTAVRLSISS* NSSTAPADPGAAPPLHPQPAEAGTWVSA FLRVIFCFPSLGFGCWEKKIAFVPFPPT DEKCL |
| 13085 | 26986 | A | 13225 | 328 | 22 | CLESPRDRPFQGPAFPKHPPPPLAFLSQ PGKVQYFFESNCKSLSSQEIKNSRSVPT SPPAPSPPPPPFLYFSLTAEGGEV*KET LDSDRAPPSSREAPICQV |
| 13086 | 26987 | A | 13226 | 180 | 5 | NSIDYKINVKNSNRPGAVAHTCNPSTLG SQGRRIT*AKEFETSLGNIVLLIYTIIY YI |
| 13087 | 26988 | A | 13227 | 237 | 528 | VGLCQDPLLLTLTDSFCSVLWGGSHLAF HKNLYVVHIDLVMYFSRISFYFTLSAAI CLSLYLGSHILSPFL*LFYCAYTTLYLC LITTLFFLIPKV |
| 13088 . | 26989 | A | 13228 | 140 | 366 | NATCLWHPMSPYAPTY*C*LSPGLLRWV LAITPIVLMILISSYNHVSISYGGTFRS NFFLDQIILTFLIYELHIV |
| 13089 | 26990 | A | 13229 | 257 | 25 | LPAHSLGRDLSAQPYSMPRPGGELRAEG QSSLCSVARSSL*LHVCVCVCVCVCART CVNVFACVLLSTKVCLHPLPE |
| 13090 | 26991 | A | 13230 13231 | 335 | 52 | WPSCSSGSPMLLPPVPPGSLG**SFSP LPAAAALPAPCAAPRPAPLRPCGPAPTP AAAPAPAPPAAASLSAARAAGSPPGSR PSARGARRPSGPCAPPEPRLGPRAPSS APRTRTPS*GRARSGGSAGNAPSARRTP QGPPRAACSLARSWIWPAGRGGSCGRAL GA CQKYSTSYCNKWLATLVIICSRKI*DGL |

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|--|---|----------------|--|--|---|---|
| | | | | | | KGQAWWLVPVIPMLWKAEAVGLPEARSL SSPCNMARAPALKKIFLIGQV |
| 13092 | 26993 | A | 13232 | 452 | 712 | VGLEGED*PPFSPAQSQSLSCWPDCSCP PSWPPDQRPGERPQPPDPPESHGAEEEG LPERPSDA*ARPQPFSLHPGVFPPQNAS TQ |
| 13093 | . 26994 | A | 13233 | 480 | 2 | SCFSEDWNPLKFKLQLSTSLSYRKSHTL HCAHHFRGQCHSD*AFLVFSLTCILQVG SLRFTAGDVSPSYPEKLRVL*EGRVADF HVMARKGQQAALAILLQNARTGYVWWLT PVIPALWKAKASGSVKPRSLRQTWQNGE TRLLDRGESASQSAGMTGM |
| 13094 | 26995 | A | 13234 | 692 | 824 | QIMALPFPSPPVPPLVM*CKGGKIPPPP SKNPRTCVGNTVIIKA |
| 13095 | 26996 | A | 13235 | 657 | 872 | PRGPRLDVLYACEPQLITCLELGTPLKV RFWLEVVDHTYNPSTLGDQGGRTA*GQE FKTSVGNSKTLSLKKK |
| 13096 | 26997 | A | 13236 | 168 | 365 | QESLCILQTCTCAHQNLK*KFGGKSRLG AVAHACNPSTLGGQGGRII*GQEFETSM VNMVKPYLY |
| 13097 | 26998 | A | 13237 | 31 | 338 | WYIVYICVCVCVCIYIYEIYMIYI*YI* YIYIKHTVQ*H*HLAFSTFTLLCNCHHC PSLELFHYPTLTYHTH*IITPHCSSC*Y QPLFYFHLYVFDYSRYLV |
| 13098 | 26999 | A | 13238 | 714 | 1001 | SSGVSCLNRAGWITGVNHHIHSLVLLKR EK*TQNIITEVCLMFLLLPHLAIEATVT WPGMVAHACNPSTLGSQGRRSV*AREFE FSLDNIARPCL |
| 13099 | 27000 | A | 13239 | 250 | 406 | NLA*HGGVHMWSSASQVAGITGTRCHAQ LIFIFLVKMGFHHVGQDGLNLLTL |
| 13100 | 27001 | A | 13240 | 256 | 193 | WINFISLPLSSLT*TLSLCVCACVYVCV CVCLRPCVHIVGGNLKRYIVFARSVTLG CKFTHLHISLIINNDT |
| 13101 | 27002 | A | 13241 | 1 | 257 | GMDLWQMCHSLSLPLIFFFFFFSEKTRS NFVPQAGFQLRALRDPPA*ASREAGITG LTHHVRPGQIFKKIGTLKPTILLPLLPR K |
| 13102 | 27003 | A | 13242 | 319 | 406 | KRGWT*WLMPVIPTLWEAEAGGSPDVRS |
| 13103 | 27004 | A | 13243 | 228 | 56 | KGAPPVLKPGYPKAAKNPTPFKPPGSKV GENPPLF*NPCPGGGNPFPTFFFFFFF F |
| 13104 | 27005 | A | 13244 | 1687 | 612 | ILGNQCCKFDAYNALANESTMISIKLNE *VREREREKEKEKERVRERKEEREKKKL TSSKGTGSTATFHV |
| 13105 | 27006 | A | 13245 | 220 | 1 | TKDPSSTMPPQPNPLLSFKSQFIFLIFL FIKKYVGWMQWLLPVIPAL*EAEAGGSL QPRSSRPAWATWRNPIF |
| 13106 | 27007 | A | 13246 | 204 | 375 | ASWPPGLQYELRIIKCLLHCWTRAMIFR ERERRERERERERERE*VHLKRKG A |
| 13107 | 27008 | A | 13247 | 158 | 2 | IWVFKETFFFQNFFFFFGKENNFNGFFF FFFFFFFF*DRVSLTLHPSLGYR |
| 13108 | 27009 | A | 13248 | 221 | 3 | NPSQGFPLLKIFFFFLRWSLALSPRLE* NSI*KN*KI*KISWAWWRTPVVPGAWEA EPGESLEPGRQRLQNE |
| 13109 | 27010 | A | 13249 | 81 | 341 | GELNDTIHVKYLG*YIKVL*RNRTNRVC VCVCVCVCVCVYACTQKDLF*GTGSCNC |

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|--|---|----------------|--|---|---|--|
| | | | | | | GALVRPKSARQASRLKTQKTVVIRSLKA VC |
| 13110 | 27011 | A . | 13250 | 299 | 1 | ATARLRFLHGAWWYASVVPPTQEAEARG FLDPRSSRME*AMILPRCTPASVTDKIP SLASQIHRPSRVACVILLSSHAPTEAPS RWPPPSPLCPAGSRA |
| 13111 | 27012 | A | 13251 | 106 | 146 | LCVLKQVKQATWTKYSSSQIFAILDCMT TLSSHPALKYCNYVLISNQSPNHLRL*C SGMISAHCNLCLPG*SNSPASASRVAVC FKASQASYLD |
| 13112 | 27013 | A | 13252 | 217 | 158 | LFEIFCIPFFFFFFNFFFETRSHSVSQA GVQWCKQGSLQP*IPINFFWGKEGVIDK LILISYGNAQGFKVAVTPVCTTALQPGR QSETLSQKRN |
| 13113 | 27014 | A | 13253 | 150 | 56 | TILILLLYETESQSVAQDGVQWCDLGS IQSPPRSSCHSPA*AGVNRLRQENGMSF EAEIVLSPDRTTALHPGLQIETLSHIII IILILSTISFHQLLH |
| 13114 | 27015 | A | 13254 | 174 | 145 | PCLKMTTYDFKSALEIAFFCFTAILRYK LLIKVTHFKWLRVAAHDCNPNTLGSGGG RITWGHEFKTSLANMA*PTTRSYSQRVG IMGITIPDEVWSRTQPSHIRSGPSKVYP |
| 13115 | 27016 | A | 13255 | 179 | 273 | GQWLTPVISAL*EVEVGGLLETRSLKQA WAT |
| 13116 | 27017 | A | 13256 | 264 | 382 | GLKIGKGCSWWFTPVIPTL*EVKARGLL EPRSLKSAWAK |
| 13117 | 27018 | A | 13257 | 1199 | 1563 | YLVVGPAVPPLDLEPGQAGATCGPVSHY KIFAKLWAVGSILDLMPGPE*GSFLSVF TSLCFIYGVTYPFHSEQPHPASPSASGL LLLKGRAAWLVSTLCIGSPAPMLTGIFP HKVYNQLFI |
| 13118 | 27019 | A | 13258 | 194 | 242 | ILYVETGSHYVAQAGLELLGSGNPPAST SEIAGIEA*ADEFIYVGVSWQDECIKSM KQVAHASIPAISEVEAGGLPEPRSSRPA |
| 13119 | 27020 | A | 13259 | 322 | 120 | GPTPVLDAFQKLCLSFTSGQQADGIIPA FPIRKQGGTQWPKPVIPTLWEAKAGRFL *PRSFRPAWAT |
| 13120 | 27021 | A | 13260 | 237 | 1 | TSKKISLGWWGKQGIPGTWEG*AKRPFE PGKPRVQWTQVPALDFSLGGKARLCLKK KKKKQKQKTLKLCTHSRITYSRA |
| 13121 | 27022 | A | 13261 | 52 | 318 | SAVGIHRCDDGSH*P*TPEHKQLSFLSL PSSWDYRGITRELFQRFPWIFLQLITAV ISSESTVLKNLELAAVRGSHVRVIMMAV PINPF |
| 13122 | 27023 | A | 13262 | 274 | 1 | KKKKNSPVWWTPVIPGSPG*AGELLEP WRQKVQLAQVVPLAKVVPQTKVVQGCPL ALQPGEHQGIFVSQKKKNPKTKRKYWAL FCSLPSC |
| 13123 | 27024 | A | 13263 | 717 | 877 | NSTKEMAHWPGVVAHTCNPSTFGG*GGW IT*AHEFETSLPNMVKPHLYKKYKK |
| 13124 | 27025 | A | 13264 | 288 | 131 | SLYIWHSKRLITITNNKISGVWWCLPVV SSTWEVEAGGSLEPRR*RPAWATK |
| 13125 | 27026 | A | 13265 | 80 | 287 | FMNGEAS*KTSILSQAWWCAPIVPAAQ* NEAGELLEPRSEWLVWATRALRISSRGL RFRFRLRRFTSTR |
| 13126 | 27027 | A | 13266 | | 241 | VGLFLFFFETESCSVTQAGVQWCGLS*L *PPPPGIRDSPASASQVAGTTGTHHHTW LIFLYF**SSGFHYVGLGRSSNS |

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|--|---|----------------|--|--|---|--|
| 13127 | 27028 | A | 13267 | 103 | 359 | ICVYVYVCIYVYEMRATSKDFLNQVWFS |
| | | | | | | FLRTVAVLFEEYLIVL*MWLSFHIHIYI HTHIHIFIYVYTHVLIYVYIHTYSYMCI HIYI |
| 13128 | 27029 | A | 13268 | 172 | 12 | SARSSQAIQIQKSVTSGQVKPQW*QS*P TPFLPTLIALTTLLLPISPFILIIL |
| 13129 | 27030 | A | 13269 | 2 | 203 | RIENIRSYKNLAALFMTAKKMGTIQMPH NFEWINKMWYIHTLEH*SDKKKKKKKVN RAEIPKLIIQK |
| 13130 | 27031 | A | 13270 | 236 | 365 | KIYRQGAVAHTCNPNTLGGQDGWIT*GQ KFETRLANMVKPHLY |
| 13131 | 27032 | A | 13271 | 371 | 15 | QNQINFALILIINTLLALLIIITF*LP QLNGYIEKSTPYECGFDPISPARVPFSI KFFLVAITFLLFDLEIALLLPLP*ALQT TNLPLIVMSSLLLIIILALSLAYE*LQK GLD*AE |
| 13132 | 27033 | A | 13272 | 2 | 16 | PRVRTSSRSRAALELIFFFFLGPPNLPV YNGPLGRTKPGTGELDTGGSPILCVGQG RHPYWKGGAKPLAPFGKGGGP*GTRPLA GPIVPPKAGLQSEMPGMAPFCGSFG*PT RPD |
| 13133 | 27034 | A | 13273 | 329 | 290 | SSALVPRLECKGIFSAHCNLCLMGSSNS PTSASRVAGITGVAGQATDKTPQTLS*R SQPSHMDPVRVVSP |
| 13134 | 27035 | A | 13274 | 175 | 13 | APCDHRPCPPENNPL*L*FSITFPNPIK RPHPYLPLLTLFSDSAHLHPGEIEQR |
| 13135 | 27036 | A | 13275 | 355 | 861 | PLTTTPAAPRAPCPPSRLSGQPLTGPTE GSRSRLSPNISEQGEPPLALTVGHPLST QPGPTVPSELEPIQGPRG*GDCPTPSQS A*GGVLSCTPESHTEFKPPPTGGGRRWA RLGLNGAT*GREEPLQTRLPAEYPGPGP IDPLQPPPISTASMATAFSDFLLLGRDP A |
| 13136 | 27037 | A | 13276 | 865 | 667 | KFLCILLDFLFFIF*EMRSQHRLECSCA IIAHCSLKLLASTDPPTSAS*IAGFTGM CHCAQLFLTF |
| 13137 | 27038 | A | 13277 | 103 | 375 | WSRRLPWRRGLGYIELFQGLEIRHHFLF GPHYLRRTQCQGPVIPSELDGQGWDYMS PGV*DQPGQHDETPSLQKI*KTSSAWWH APVVPAT |
| 13138 | 27039 | A | 13278 | 177 | 3 | QQTEGSRAHSNSHRRPGAVVHASNPNTL GGRGG*NI*SQKFKTSLVNMVKPCLYGR V |
| 13139 | 27040 | A | 13279 | 379 | 372 | SR*WVCMVAHACDPSILGGQGGRIT*AQ EFETSLRNMVRPCLCLGNTNIYIYIHTH TYIFIQN |
| 13140 | 27041 | A | 13280 | 83 | 1184 | PPAHAARASPPSYTWLCYEVKIKRGRSN LLWDTGVFRGPVLPKRQSNHRQEVSSWE CRKHISKMSGGGLSTVYFFHRRFQITWF VSWNPCLPCVVKVTKFLAEHPNVTLTIS AARLYYYRDRDWRWVLLRLHKAGARVKI MDYEGERCRGQGSMTGRNSLRDGWICNA INYASLHRTLKEILR*GSPSGLIVSLLS PPAHPPEDSPGNESWLCFTMEVTKHHSA VFRKRGVFRNQVAPKSYLHPK*ELSSWE RRKHNT*HTNYEVTWYTSWSPCPECAGE VAEFLARHSNVNLTIFTARLCYFWDTDY QEGLCSLSQEGASVKIMGYKDFVSCWKN |

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|--|---|----------------|--|--|---|--|
| | | | | | | FVYSDDEPFKPWKGLQTNFRLLKRRLRE ILO |
| 13141 | 27042 | A | 13282 | 1558 | 1824 | SFPYLASFPFCLGLPLETLFHPLGL*KD *SDTHTHTHTHTHTHTHSHTHAHFPSFPDP LFQSSPFSSGFIDEYKYPHLWPVMSVTC CRFCV |
| 13142 | 27043 | A | 13283 | 1 | 519 | PHFFLPQGFWGFFSPFPL*KSSSPLKAL IFLGGFSPFFPPPKKRFFSKIPRGVFFP PPKGKKFFFPPPG*IWPPQGFFLKGPPS SSSSSSSSSSSSSSSSSSSSS |
| 13143 | 27044 | A | 13284 | 349 | 159 | CPLEPKKNYPFCFFF*ETGSCYVA*AGL VLVASSNPPASASQIAGIQGTSRHAQPC RIFLSKT |
| 13144 | 27045 | A | 13285 | 748 | 869 | WLGVVAHACNPSSLGGRGGQIV*PQEFE TSRGNMARPQSL |
| 13145 | 27046 | A | 13286 | 315 | 410 | VQWFTPVNSALWESEAGGLLEIRS*RTT WAT |
| 13146 | 27047 | A | 13287 | 355 | 499 | ARCGGMHLYSQIFGRLRWEHCLR*KVLS QVWWHAPVFADIWEVEVGALLEARSLRL *CAMLLPVNSHGPPTWAMQ |
| 13147 | 27048 | A | 13288 | 880 | 701 | KSYFSSHLHFEGKKCVSSILD*SILVLM CSWLMNYTHTHTYIYIYTRTHICVHVYV HNF |
| 13148 | 27049 | A | 13289 | 379 | 434 | KRGPPPPKKRGCFFSEKFF*GPPKTPFF FFFPKKKKKKKKKKKKKKKKKKKGGRSRS RLADAWADAW |
| 13149 | 27050 | A | 13290 | 253 | 344 | GLFYNLQKIKIFYVKNLFFFFSNSITEA GVQWPNLGSLQPPPSGSNDSPASE*RIV V |
| 13150 | 27051 | A | 13291 | 561 | 745 | AWEPSLVGETNVNSFNQKYINWPGAVAH TYNAGTLGGQGGWIT*GQEFETTLANMV KPSPY |
| 13151 | 27052 | A | 13292 | 289 | 2 | TLPQGEDFNKFVFGSIKQKLQINL*NTD FIGNVFQSWAQQYTPVVPPSWVAEVEGS LAARSSRPLCTIITPLNSHCSLAWATQQ DPAGRVGRPRV |
| 13152 | 27053 | A | 13293 | 281 | 229 | LKNKNVNKEKLRQGVVAHACNPSILGGR GGWIT*GEM |
| 13153 | 27054 | A | 13294 | 276 | 441 | GLFPKFLIQKINQNWPDAVVHAYNPSTL GVQGRWIT*GQ*FKTSLANRGRKSENK |
| 13154 | 27055 | A | 13295 | 258 | 389 | NMVEKRLGQAHAYNLSTLRGQGERIT*A WEFETSLGNVVRPCI |
| 13155 | 27056 | A | 13296 | 358 | 353 | SFLAFFNGAFLPLRGFFWKTFFFGGVCW RRPPL*RKKKKKKKKKKKKKKKKKK MFKRNIGGEERGGGG |
| 13156 | 27057 | A | 13297 | 196 | 1 | LMGKAPFLGGFIPPAFFFFLKKKKGGPG AVAYTCNLSTLGGRGRWIT*GQEFETSL ANIAKPCSC |
| 13157 | 27058 | A | 13298 | 182 | 436 | GVTILNVRHRHRKKVTLYRDLKKVRKCP KLHGNLRKVFQAEGIASSKTLKGHVWWL MPVIPAL*EAKMEGLLEARSLRSAWATQ |
| 13158 | 27059 27060 | A | 13299 | 334 | 372 | RHYWLNF*AFYHSSLAPAPQGGGHWPPP GITPLNSLHVPLLNTSA*LASGV*LT*A HHRLVPNNRALIIQALRITRILGLYSTL LPA*KNFEAPFTISDGVYGSAFF*ATGC HGLNVIIGSTFLTICFIRQLIFHCTSKQ *LWLEPPAWDW KKKKICGGKKNPPNKKKVKPRGEKTPLK |

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|--|---|----------------|--|--|---|---|
| 13160 | 27061 | A | 13301 | 233 | 406 | PFLKKASF*EIFFCGPPPFFFFFQNTLF FFPPFFFFFFFFFFFFLDKFAVY VTVEGMEEVLAGSSEGMGSRPTS*V*FL |
| | | | | | | KYLLGAVAHAHKPSTLGGRGGRIT*AQE LKTSLCNKVRPRLYKINK |
| 13161 | 27062 | A | 13302 | 92 | 429 | GSHFNSELIEMKFYIIKRNIFIILNCFY LIKHQHFHYTKFLLVSVINKF*LATVAH AYNLNTLGGQGGRSA*THEFKTSLGNTV RSCLYKNLKMSWVWWCTAIWEAEVRGLP |
| 13162 | 27063 | A | 13303 | 302 | 140 | GGAVNSVQSQAWWHMPVVPVPWEAETGL LKPRSLSL*CPMIVHVNSHCTPAWAT |
| 13163 | 27064 | A | 13304 | 115 | 312 | LRSPSFVLSPRLKCGGTIMVHCSFDLLG *RNPPALPSKVVETIGLHHHALLRLLIF FF*KWVVLFF |
| 13164 | 27065 | A | 13305 | 90 | 246 | PGVVAHACNPSTLGGRGGRIT*GQEFKS SLCKIAPPPERKEGRKEGGKKKERG |
| 13165 | 27066 | A | 13306 | 19 | 310 | DSSFSPIMCFGMSVNKTGLWLGKKKKK KKKKGGPP*KKPLGGPNLPGGGKKKFFP *RGAKKNPPGDFWKKTLFLGGEKLGPPP PQK*NPFFGGGKIGPTPPPKIKPFGEKK KF |
| 13166 | 27067 | A | 13307 | 179 | 56 | WVLVYKKQSILG*AQWVMSVISALWEAE AGGSLVSTSLRLA |
| 13167 | 27068 | A | 13308 | 425 | 290 | KKNIYLAPPGYFWPPQRFFLSPPPPPNV VIFFFFLFFFFFLFFFFFLIQYAEGIG VMRGRGEGKMGR*W*KFFGRRVLNIRSI LLANFKHVVPYW |
| 13168 | 27069 | A | 13309 | 214 | 371 | IYF**RWISQAWWLMPVIPKLWEAEAGG *LEPMSLPGQYNETSPL |
| 13169 | 27070 | A | 13310 | 975 | 572 | AWGMVVGVGKHSLVSLGIEECQASTALS LDKSGWWEEAARREDVLCEDRRCLLCHV PAGVRGSLKPELGSRKGKNGQQSGSKPS VPSLGPRPQGPGNPALSKGTRPN*AICF LCQTPADHSAKKQAPHTLIPIR |
| 13170 | 27071 | A | 13311 | 270 | 10 | TPNKSLI*RLQFSNIKLANLGLGTMAHS CNLNTLGGQGARITSGEEFKTGLGNIDP IPIESKVIKTLAGMVSPDAWVDAIKRTG TSG |
| 13171 | 27072 | A | 13312 | 103 | 290 | LTEVVSGVIL*NCIYLLPQYTSTRVHAY IHTYIHTHTHTSGLSSTSVGSTNHKSKI FGGKKG |
| 13172 | 27073 | A | 13313 | 136 | 1 | SNTSSSLVTQAGGQWCELGSL*PLPPKF KRFSCLSLPSSWDYRRL |
| 13173 | 27074 | A | 13314 | 88 | 183 | RVSTLLKKSCFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF |
| 13174 | 27075 | A | 13315 | 481 | 517 | LLSP*RPKGKPKGKKRKPNLKEKKIGEA RGGKERQRKTPQRTGKQKKRRKYRRIGR RNYR |
| 13175 | 27076 | A | 13316 | 307 | 196 | GMHLYLPRTW*WVRVIPGSREIEVHAPL EPGSQRLLVAEMTPMHSSLDNMNKSPFP QPPKTEKQTKNPPKPHIIA |
| 13176 | 27077 | A | 13317 | 2 | 209 | PARALDLKGSPYMESCSDAQAGVQDSIY GDHL*LRAPAV**GQTVFVASPSKVGGI TGASHHPGLFFLF |
| 13177 | 27078 | A | 13318 | 3 | 178 | SFCFSVLREIIGQSLIMKTLP*ITHTHT |

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|--|---|----------------|--|---|---|--|
| | | | | | | HTHTHTHTTQREIERERDRERGESQVL GC |
| 13178 | 27079 | A | 13319 | 40 | 382 | DSVPSLLKLIMETGPHHVVQASTTTPS *FFILEGFHHVAHAGLKLPSSSRPPHLA SQSAGIYGCEPLRSARLIINYIGSRLWG LRNICLSQDHEECLLCFILQAISMYRFC LG |
| 13179 | 27080 | A | 13320 | 107 | 1 | PPLIMANSGWAQWLTPVVPTLWEAKAGG *SEVRSS |
| 13180 | 27081 | A | 13321 | 111 | 382 | ASSQLLELAIQVFPGIWIPPTTKQKGVP SGKTLVTSKIIAGLKMPKDSRSRPRTVA HTYNSSTLRGQDRRIT*AQEFKTSLGKI GRPCLF |
| 13181 | 27082 | A | 13322 | 49 | 108 | CGLY*FFF*ATRSWHVAQAGLEFLGLSS FPASASSVAGTTGMCHHTQLHY*F*V |
| 13182 | 27083 | A | 13323 | 1 | 257 | ARGERERERERERERERERERERERERERERERERERERE |
| 13183 | 27084 | A | 13324 | 1 | 248 | EFQYILCSALIFGRSKILK*ATKEVKKS KHIPRISCQDTRKYNWSAKAKRRNTTGT GRMRHLKIVYRRFRHGLHEENLFLKH |
| 13184 | 27085 | A | 13326 | 375 | 1 | PPKRRGKTHCSPPKVFPPPQNN*TTPPP QLIICYL*RGGVFFSLPLII*APPAFFF FFQFFFFFFFFFFFFFFLQGQYWQFRDT DAEGHLASSRPSGAVFPSQGMHTTGSTR RWGQCVPFPPTRP |
| 13185 | 27086 | A | 13327 | 382 | 15 | NWPKNCPLHFQNWFLRKTPQIFFCLKNF FFFFPKKVFYPPKKPFLEKPWPPVLN*K KPPPPFFFGWGPGGPQYCPFKKAPPLFI RGKERFPLWGKGDFFQIPCPPGPLKKKK RAAARDLGTS |
| 13186 | 27087 | A | 13328 | 2 | 220 | GRVGSSRARAVALFFFFFFFFFFFFF QNPPLKRGEKKKNTPPLKKKRPLRGGFK KQKEC*EKKKKLSGPK |
| 13187 | 27088 | A | 13329 | 427 | 289 | IQLWSSL*K*LHTHTHTHTHTHTHTCFL TVMKELSTHPGNK |
| 13188 | 27089 | A | 13330 | 203 | 269 | INFGPPREPGGFNQKPQFPSAPGFEPWN PPQGPKP*KKKKRKKPFKVWAPGGGSKV QNPGLRETGVFG |
| 13189 | 27090 | A | 13331 | 216 | 418 | DVPVHYCRLYKPCTLRLHSIYKKQILLW PGAVAHACNPTTLGGRGLWIT*GQEFEA SLANVVKPHLY |
| 13190 | 27091 | A | 13332 | 160 | 325 | WERQLFKIAQSGLARWLTPVIPALWEAE EGGLFEYTSLR*LWATQQDPISTKMFK |
| 13191 | 27092 | A | 13333 | 339 | 62 | GMLPLFVPPQKRGSPPYPCYGVYNSPPL KKQRFFSSLGIVLPPIVFITPPPPAFFF FFFCFFFFFFFFFFFFLI*RRLMRRRM FSCFLHCP |
| 13192 | 27093 | A | 13334 | 45 | 384 | DPSVRINTLLALLLIRITF*LPQLNGYI EKSTPYECGFDPISPARVPFSIKFFLGA ITFLLFDLEIALLLPLP*ALQTTNLPLI GMASLLLIIILALSLAYE*LQKGLH*AE |
| 13193 | 27094 | A | 13335 | 270 | 660 | AGSRRPLRVPGFSLSMMSPSLCRPVCVA QCIRVSFLLTVGAVLRPGFQCLDWPCLV YARLSGWTGFPPCRYGKGCCRYDEGCCR FGEGCCRCDDRCCRCGEGCCRCDDGCCR YDEG*CRCDDGCCHYGE |

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|--|---|----------------|--|---|---|--|
| 13194 | 27095 | A | 13336 | 298 | 349 | KTTPFYGLRGSKIGTL*CSGVIIAH*SL KLLGSSDPLSLVAQAARTTGACHHDQLT NAFFFFPLERVPTPLKNNPFLWVKGVKN WDLD |
| 13195 | 27096 | A | 13337 | 865 | 518 | KSATMRMVEDTHKMPAWGGYSGSLQQER GELSSLPCP*PESPPPLLIFLKLPSNPL PCSPLPCTQGPGQPAPYVSIHTSLKFPN AKLSVCLSRAIEFS |
| 13196 | 27097 | A | 13338 | 154 | 354 | FNLQVKPDGYFVLFICHILPTDSKSGKA PGAPCHSRNFHIRKTLGWVQWLTPVILA LWET*FSHQENSGLGAVAHTCNPSTLGN QGGWIA |
| 13197 | 27098 | A | 13339 | 262 | 11 | QFHFSRKLTP*KM*LSAHSSNTHEAYVA FPKAHKPGLNSKTAF*LGTEAHACNPNI LGGQGGQITRGQAFKTSLANMAKPRLY |
| 13198 | 27099 | A | 13340 | 358 | 164 | TKKGKPRFFLKNSKISRGWWWAPVISGP WEGEGGAFV*TGRPKIWLTEVGPLPFNL GKKKENPF |
| 13199 | 27100 | A | 13341 | 147 | 2 | FRPQKVSVRVGVLAHACNPTILGAQGGH II*GQEF*ASMANMVKPSSC |
| 13200 | 27101 | A | 13342 | 367 | 17 | TSRSWNLFHVLVRFPTADKDIREIGSFT KKRSLIDLTIPYAWASFTLMMEGKKEQV TSSINGSRQKVRSQSGELLSLTPSDFSW AHWLMPVFPALW*SETGSLFEVRPSRPA WPTW |
| 13201 | 27102 | A | 13343 | 166 | 492 | EGTQETLCGCIICLVRGDALNLFHLKCS WVGWRGAICCMELRETAKQKLSVWKLYP FEIVFSFSNNNPRPGAVAHICNPNTLGG *GGRIARAQEFETNLCNIVRPHLFR |
| 13202 | 27103 | A | 13344 | 804 | 1124 | TFFFCFFL*DRVWDVAPGWESSDMIMGP LQALTSWGSTDPPTLGLQSGLGDLQDTW PPYPTSFYYFFLQGRGLTMLPRLVLNSC TQAILPPQPGQRSKTPISLKTN |
| 13203 | 27104 | A | 13345 | 280 | 448 | GGGGKKKKTPKPPLEKNNFSPPP*FFPP KKQIKPPPPF*GGGGKKKKTPKPPLEKN NFSPPPFKPRKGIFFLFPPLSWVKKKGD PPGGTRPLAPL |
| 13204 | 27105 | A | 13346 | 232 | 400 | AELLRYCSCGHFL*SMARYKTKPGVRWL TPVIPVFWEAEAR*LHEPRSSRPASATQ |
| 13205 | 27106 | A | 13347 | 138 | 332 | RAVVKPSFEIFYFFF*RAHTF**SCVCL CVCVCVCVCV*THTHTHTHKHTHDY |
| 13206 | 27107 | A | 13348 | 314 | 395 | WLGIVAHAYNPSTLGT*GGWIT*GPEV |
| 13207 | 27108 | | 13349 | 388 | 371 | IMNGWQDKELVSRVIQTGIKK*KPRNRP EFRAPP*WHERNGRKERERMEGRKERER KKGKGKERKRKKEACIYKVKIEISNNLA NLIINVER*DRRRPDILSWVSLSSRVSS VFIALVTCLTSPQFFLSLHLNQILFPLG KNL |
| 13208 | 27109 | A | 13350 | 412 | 40 | LVFRFWMCLFSRELFGCFSHLLTKSMSQ M*VVAFGDIMYTFDLLFIKKTKNNCKLW QGCKEEGSLIHCWRECKLVQPL*RPI*R SLKKLQMGLPYDPAISLLETYPKERKSV Y*RNICTSGRVG |
| 13209 | 27110 | A | 13351 | 372 | 148 | FFFFFFFFFFFFFFFFATGSCRVA*P GVKWLISGTVPLLISTGVLTCSISDLGQ PVHTSLGNLVVPYSQELPY |
| 13210 | 27111 | А | 13352 | 209 | 206 | KKKKKNFFSFHGKNPGNGGPFGGPPPPP F*TFFKKGGGLPKGPPPKGFFWNPPQNG |

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|--|---|----------------|--|--|---|--|
| | | | | | | GGGP*PGGEKKTPKPSLGVLFFFFFKFF KKRPTAFFFLKKKIFF |
| 13211 | 27112 | A | 13353 | 43 | 334 | KKKKKKKKKKKKKKKKKRGGGPFIKISG GAQFFRGEKKFFFFFLGGGKKTPRGFFE KKPFFWGGNFWPPPPQKNFPFGEKKKFL GGGGGKNRVFFWGEKIFSLGFFLKKFF* KKPEGKNFFPPKKNPVFSPPPP*KFFFF PKGEIFLGGGGPKIPPPKKRFFFKKPPG GFFSPP*KKKKKFFLPPEKLGPPRNFYK RPPPPFFFFFFFFFFFFFFFF |
| 13212 | 27113 | A | 13354 | 264 | 496 | KPTILRVTHFLEGCEKYEFLLPVAFSNF SEPLKRYYYWLGAEAHVCNPSTLEGRGG QIT*GQEFETSLVNMVKTCLY |
| 13213 | 27114 | A | 13355 | 183 | 9 | IRSPKIPEIRVFFFSRWSYALVAQVGVQ WGNLS*MHPPRARFQPLSSLSVPST*KY R |
| 13214 | 27115 . | A | 13356 | 208 | 378 | EICLEFKIIDEMDKCGKLWLGTGAHT*N PITLGGQGGQTT*GRAFETSLDIMEKRY L |
| 13215 | 27116 | A | 13357 | 256 | 341 | KGQTQWLTPVIPTLWEA*AGGLLESRSS |
| 13216 | 27117 | A | 13358 | 78 | 344 | IVGLFESESKKGQHIVSGWIYLRLLIYR FLFPLFSCLCKFFFFFFSPETEFCFVPQ AGVQ*HNLG*LKPPPPQLKQFSCLTLPS SWNYR |
| 13217 | 27118 | A | 13359 | 259 | 291 | AQ*LMPVVPALYEAEAGGSSLEPRSLLS VWAT |
| 13218 | 27119 | A | 13360 | 448 | 121 | RLFDLGNKKTSSFVQNSENAKYEDSLQF YCRIYIYVYIYVYICIHICVYM*TYMCM YICIYMYTYTHVYTHVYMCIHTYMCI*A YICVYIYIF*KACLPLAISTLSSGH |
| 13219 . | 27120 | A | 13361 | 125 | 262 | FSFQASVEFTSKTVWSWVQWLTPIISTT *EAQAGGSLEARNSRPD |
| 13220 | 27121 | A | 13362 | 362 | 46 | ARAKGPKKIGFSGKMGPP*GAPPPKMGK KI*ITPPPKFLFFFLGKTKIKNPPWGFW PFGFPKKKRGGGARR*KTPSPFREKPPP QKLKRFKTPFPPLFFFKNPRP |
| 13221 | 27122 | А | 13363 | 378 | 48 | FKKAAREKVSTRKFRGFVCLFWDFFWRQ SHSVTQAGVQ*CDLNLHPPGSSDSPAAA SQVAWTTGTHHHTQLIFIFIFCRNKISP SLLKKYKKNLPGVVAGACNPSHLGG |
| 13222 | 27123 | A | 13364 | 174 | 396 | SLIFILEKRECYYPRSLFTVANFTVAKR *QTLNCPSTDKWINKMCHIHTVEYYSDI KRNEIPMRATCRQTLKA |
| 13223 | 27124 | A | 13365 | 76 | 280 | PLLPFKAWQWVGCHYVV*KLD*INCYFR ALLAFSEYMYIYIYIRTHTHT*IYIYIY IYKLTYSHLKVG |
| 13224 | 27125 | A | 13366 | 133 | 324 | YLL*ILVYCSHLIFSLLCLEGIILWVFI IATLITLNTHSLLINIVPIAILDLAAGQ AAVGLALLVSKKKKKGPPLKKPPLGAQI SPANQRKKFPPKRKPIKTRRGTF |
| 13225 | 27126 | A | 13367 | 488 | 190 | FSYAACFLPQCVFVCTFIYLHADGFLLL IIFFENSVFILCHSCWVFCFLLQWFLLM NLFSLFLLMLMHPVS*MECSIYSFSSLI IFHFSLMLLFFCFMI |
| 13226 | 27127 | A | 13368 | 229 | 372 | YYATKDFSRPRAVAHTCNPSTLGGRGRQ IT*GRQFETSLANVVKPQLY |
| 13227 | 27128 | A | 13369 | 122 | 2 | KEECVGSGTWWVMPVIPAL*EAEGRGSL EPRSLRPAWTKK |

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|--|---|----------------|--|--|---|--|
| 13228 | 27129 | A | 13370 | 43 | 412 | RPTRPKRONYGDSENISGCOGLGKKGMN GKSTEDFEGSETTLYDAITVGTCHNKFI RSHIVYNTKSGP*HKLWTWGGHDVSV*V PQLRKTYHPGERCL**GRLSMYRGREYI GNLCIFCSLLL |
| 13229 | 27130 | A | 13371 | 136 | 1 | KSPTWPGAMAHTCNLSTLEGQGGWIT*G QGFETSLANMVKPSDAW |
| 13230 | 27131 | A | 13372 | 228 | 385 | GLLIHKLEFKHFWLGTVAHTCNPSTLGG QGRHIT*GQGFETSLANMAEPCLY |
| 13231 | 27132 | A | 13373 | 277 | 429 | LETTTKAGLPTIIFTSSGQMSIWFFQNK PWDSKKLFNLLSISSP**SSKNY*PWQS TVAHTCNPSTLGGQGRWIT*GQEFEISL ANMVKPARVGRHVIRGLQVS |
| 13232 | 27133 | A | 13374 | 194 | 3 | NQENYIYIYTHTHTYTHTYIYIL*LLLQ WVYLAYFLCLSYPSLFAQGFTHTTYTHT HMHTLIL |
| 13233 | 27134 | A | 13375 | 377 | 228 | DRVLLLLPRLECRGIIMAHCRLPRLVSN S*APALSFQSAESTGVPNVPS |
| 13234 | 27135 | A | 13376 | 255 | 465 | NAWKCPFIYKITFVIFLIHVSCKKFRNY RQREWKLPTVRPLSPS*AIIFPVTCTYT SRWPEATKDPQKK |
| 13235 | 27136 | A | 13377 | 336 | 38 | VWWCTPVVPATQEAEVGGSLESGRLRLQ *AVITLVNEHRESALASRRGPEETSSVK PPLPTILAHTCFSLPRTGQDITSRFLAQ RNTEENLELQMEARA |
| 13236 | 27137 | A | 13378 | 376 | 293 | FFFFFFFFYYFFFFK*KFLTKKKILSSQ YI |
| 13237 | 27138 | A | 13379 | 215 | 16 | HLTWSFTTATEGSKTVTQHSVYRKAKLG LGAVTHTCNPSTLGGLGRWIT*GQEYKG IPPHGLEDVQ |
| 13238 | 27139 | A | 13380 | 184 | 64 | VDESLEGWMMDEWMSGWRGGCINRYMHA WMDG*GDGWIGG |
| 13239 | 27140 | A | 13381 | 233 | 417 | LKPITKGRKPRGFFLPFKPKQKKYFWGF KKKKKKKKKKKKKKKKKKKASRAPF*KKG PQKTP |
| 13240 | 27141 | A | 13382 | 34 | 360 | RWNTTNADHDLKDNILSPPQINLYIRQN SSRLFCRH*QMDSKSPVKIPAGFVLYI* IYRYTHTHTHTHTHTDSELYMETHTRMA NTIVRKNNSLEHSYYLMLRMTIKLP |
| 13241 | 27142 | A | 13383 | 214 | 71 | QTLNTDSGPGVVIHACNPSNLGGHGGKI I*GQGFETSLANMVKRCLY |
| 13242 | 27143 | A | 13384 | 352 | 312 | DKQLTLHRTDSLYTFYTY*PPQSCEPIS YNNFPCLSQYLYLCPSLHTHTHTHTHTH THTHTHTHTHTHVSVGRRSLFFSGPHTE APRSRVSVYT |
| 13243 | 27144 | A | 13385 | 393 | 271 | IEGQIQYTSTIGNKFKDFYLILCKEGIM SREISPPSSCHLRQQ*RVRLRERDRERK RQRERQRERE*GRSVLHPHVT |
| 13244 | 27145 | A | 13386 | 180 | 440 | PVEERTLCEDILCFPFSVLLCIQFHLLI QHACFKYPNPNSRFGSWPGAVAHICNPS TLGGGGRWIT*NQEFEARLSNMVKPRLY KNI |
| 13245 | 27146 | A | 13387 | 190 | 47 | EGEKGVPSTILKMETLLGTVAYPCHPST LGGQGGRIAEAQEF*DHLE |
| 13246 | 27147 | A | 13388 | 188 | 470 | ARPPCKGRDSSAEGPPGPPFPSWSSLGC WTREPPGRGEPIQVAVRREESAQDWARP ELIIKEWWPGLVAHTCNPSTLGGRGGWI A*A*EFENSQ |

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|--|---|----------------|--|---|---|--|
| 13247 | 27148 | A | 13389 | 454 | 367 | NKKKPPPRPP*PPPPLGKTPFFKKKNP NFPRGGGNSPGSPSFGGGKGKDPPPGGF FPPPPYPRGEGGNPFFKKKKKKKRASLD P*WSSQPCPAYEKELNFAPVLATVTLPP GHSS |
| 13248 | 27149 | A | 13390 | 34 | 354 | HTLLALLIIITF*LPQLNGYIEKSTPY ECGFDPISPARVPFSIKFFLVAITFLLF ELEIALLLPLP*ALQTTNLPLIVMSSLL LIIILALSLAYE*LQKGLD*TEY |
| 13249 | 27150 | A | 13391 | 1089 | 792 | THGFGPQVGSPLDLKQPQKAMPRGPSLG NPPPGCQQHSHGAGGP*VPPGPRQPVMA SRNLCLPLALPRTHPPSPGQTRDKPRTQ DRSCWRDPRNGPGV |
| 13250 | 27151 | A | 13392 | 299 | 428 | WIRCRGRGRSCLPVPHSAPALLSPLVVD GTRRREAGGGTCQGGSGCMGAHWGLGGG EGSGCRSQALPREAAEARREFKHGGIPR H*LTESLVSVVEFRHA |
| 13251 | 27152 | A | 13393 | 382 | 413 | HGKTHLYKKFKNKKFKATMPA*WLTPVI PTLQEAEAEASLKPKSSRPAWVTWQDPS LQKI |
| 13252 | 27153 | A | 13394 | 64 | 401 | GGIPKEDSQAGAFTGIGERQQGLVIPLL KNGQLSTDACVPPWGRVGVERAGPPNQP AGEGGQQGQECSLGLLPEANRCHPCNPS TLGGRSGQIA*GQEFEISLGNTVRSCPY |
| 13253 | 27154 | A | 13395 | 146 | 18 | FSPGVVAHACNPSTLGGQGGQIT*GQAF KTSLANTVKPKRPQ |
| 13254 | 27155 | A | 13396 | 1056 | 679 | DIQVPERPL*NVPEPEAKGEPPDRAVGE HIDRDCRSDPAQQKRKIFTNKCERAGCR QREMMKLTCERCSRNFCIKHRHPLDHDC SGEGHPTSRAGLAAISRAQAVASTSTVP SPSQTMPSCTSPSR |
| 13255 | 27156 | A | 13397 | 440 | 423 | IHSPPTQRRV*QRERERERERERERH ALAERNRTREGISGTTGERGNLMLVGHH LPGPLSSRRLGFCPDGFGGQHCLAQGDQ VRL |
| 13256 | 27157 | A | 13398 | 2 | 256 | IETLGSAVEFIPYENTYQTYLKKKNRNS HMQSQPNRKGHIRLKYIAAWA*WLTPVI PALWEAEAGRSLESRSRNPVSTKKKIQK |
| 13257 | 27158 | A | 13399 | 102 | 922 | LSFFLFSETGSCSVAQPEVQWCNHSSLQ P*TPGGPSMQFQLPQEQGQRTAVWHGGR A |
| 13258 | 27159 | A | 13400 | 198 | 55 | KDYSAVVHTCNPSTLGGGGGWIT*GQEL KTSQANMVKPHLYKNPKIEF |
| 13259 | 27160 | A | 13401 | 19 | 447 | ESALNLPSAGIIGVSHRTQPIFCILNAL ALGVLILERSPLQSPQVPPSHSHTKPGS LPSVTPGRGPGRPRAAEPTAQGRRYNSN PVLISPGSVHPASFALPAEPP*TGAPST PRPCVLRPLLLGNAMDLLCTKLSSRLPP YRT |
| 13260 | 27161 | A | 13402 | 93 | 410 | DSNLNYSLFFHGEADLGTNQVLTHPSTT AMYFEHYCQPP*IVHGTINT*PPVVHKN PIHIITPSPCLRASTAINLLLSHINCYS *ATPHPLGYQQTYLPLTVHST |
| 13261 | 27162 | A | 13403 | 55 | 387 | SNSHTYSLKKSAGITKFQNWHIVNCICI CQVVVPLEMVNRHTVILCQYPVKPRILY QHHTAILVTILTFTLRPGVVSHACNPST LGGQGGRII*AQEFKISLGNIVRPCLY |
| 13262 | 27163 | A | 13404 | 39 | 365 | SGDRRVRLLLKIITF*LSQLNGYIEKST |

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|--|---|----------------|--|---|---|--|
| 13263 | 27164 | A | 13405 | 32 | 350 | RYECGFDPISPARVPFSIKFFLAAITFL LFDLEIALLLPLP*ALQTTNLPLIGMSS LLLIIILALSLAYE*LQKGLD*AE HEFATSTSEMTKGTS*IVKRRIKTHTLC |
| 13203 | 2/104 | | 13403 | 32 | | RRCGSKAYHLQKSTCGKCGYPAKRKRY NWSATAKRRNTTGTGRMRHLKIVYRRFR HGFREGTTPKPKRAAVAASSSS |
| 13264 | 27165 | A | 13406 | 326 | 668 | LQFKIFCMPGIFTISEVSSMSN*RTAYG SQSFHKIVLI*LATFGQALSC*IL*IHL CYLKNKTKHRALVAHACNPNTLGSPRGR IA*GQEFETSLGSIVRLLLSTKNLKKKK NM |
| 13265 | 27166 | A . | 13407 | 170 | 472 | KLISVWSEESSYCVEHGEPVVPQEKEYS WLEIGKAEMERSTLESLLGATLEALSSN PTRKMQGLKLKLQRASAFKEEPWLGVVA HACNPSTLGG*GGRIA |
| 13266 | 27167 | A | 13408 | 178 | 422 | FYNRYF*YTKTYQTENIYCKIMSFRLLV *KI*SLPGAMAHACNPSTLGGRGGRII* GREFETRNS |
| 13267 | 27168 | A | 13409 | 274 | 444 | LFSQYIVFVHYSSFVLILFV**LFSQYI VFVHYSSFVLILFVILHNYTYIYIHTHT HTYTLIFLLIFSQISLGWMKLIL |
| 13268 | 27169 | A | 13410 | 205 | 23 | KEFLKFHRKCICQQVKKIWPRAVAHACN PSTLGGQGKRIT*GQELETSLANVEKPH FSNS |
| 13269 | 27170 | A | 13411 | 25 | 426 | SVWWNSLETRSSRLRLLKKI*NLQNKKR KFEHRHAQRKYDLETQGEDAIYKLRRER RKEEE*EKEEKKRRRKEKEKKKKKPTL LCLKKQRNQHLDLRLPASRTVKKLISVV *ATHSVVPCYGSPSKLIQQSIH |
| 13270 | 27171 | A | 13412 | 227 | 52 | EIGSHSCHPGWSTVAQS*LTLTSNS*TQ LILPPQPPRELHYNCVPPCPAFCRQALA MF |
| 13271 | 27172 | A | 13413 | 345 | 67 | SKCCYVVAHDCILLDLICLYFLELVGCV DCFSSSLGHY*PLFV*IFFLSPSLLFWY SHYEHICVPHFSKAPFIFLHFFPSPEFP FLCIEMVYV |
| 13272 | 27173 | A | 13414 | 345 | 33 | KVFFFLIICKMRMQNKQKNKHGICLLNS AMNTCISFPLRQQIMTTWWLEVTQIWGV LFYLFHFIEMGSCPGWSAVA*SQPSATP VSWSQVILLPQPPEDLGNS |
| 13273 | 27174 | A | 13415 | 187 | 415 | FNQGWAFLFPFCVIFSYPWKDRNRTIFS IKITSFQESVLKLFCIFEVS*ILKIGLG QVRWLTPVIPALRRPRQADH |
| 13274 | 27175 | A | 13416 | 143 | 50 | CMKLQSSIVMLGVVAHACNPSTLGGQGG WIT*GQGGWIT |
| 13275 | 27176 | A | 13417 | 170 | 17 | KQMREKEGNGLLTISKVWKQPKSPSQS* *IKKM*YICTMECYSALRPEFPE |
| 13276 | 27177 | A | 13418 | 7 | 163 | IK*IWYI*TMEYYSAMKRKKIMSSAAIW MKLEAIILGEVMQEWKTKNLMFSFISGS |
| 13277 | 27178 | A | 13419 | 901 | 709 | SGRKTSLGNIARSCLYTKSFKIHCLPVV PATQEAEAGGSLKPRSLRLQ*ARSHHCS PVWVTTRP |
| 13278 | 27179 | A | 13420 | 236 | 4 | VIRAKTGSHNSLFPPHTFFFQGKNLCFF QKKKKKXIYIQSKPGAMAHACNPSTLGG QIT*DQEFETSLATMVKPNLY |
| 13279 | 27180 | A | 13421 | 46 | 141 | NSVISAHCNLCLPGSSDSPSSASRVAGI TGWC*HCNLCLPGSSDSPSSASRVAGIT |

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|--|---|----------------|--|---|---|--|
| 13280 | 27181 | A | 13422 | 604 | 1121 | GWC LGSGDLP*EINPLSSCSLLREKDPPTTS GPQTDQPKKHLTNFKSAPYKTITDAELR VTLTVEAHLHPGEINSHVAHTKPVWWSL HTDAHEIWCRDSDLKLVPTLPLIPLEAA LRNITHSLSIPPPKNFRRPNTSTLFCVI FLINIRRQEYQASEPKPSHRIPCDLHVY AQMA |
| 13281 | 27182 | A | 13423 | 214 | 22 | IRESSSTPSSPTLPESCNSIPFPF*KFI WSGVVAHAYNLNTLGG*GRKIARAQEFE NSTRAGLW |
| 13282 | 27183 | A | 13424 | 397 | 330 | SEYNSECS*VQWHTLVVSATQEAEAEGS LEARSSRLLCALIIPVNCHCTPAWAFPM |
| 13283 | 27184 | A | 13425 | 729 | 885 | AKCYPVRNISLWPGAVAHACNPSTLGGQ GGRIT*GQEFRTSLANMVKPHLY |
| 13284 | 27185 | A | 13426 | 231 | 2 | ASVFFKATLVDLHW*IYIYTYIYTYIHI YTHTYTHIYIYIHTYIYLNVNQYICLYV HINANQQGYIYTGRTPICFF |
| 13285 | 27186 | A | 13427 | 184 | 171 | LS*YIYIYTHTHTHTHTHTYILYIYTYE QPSSQSS |
| 13286 | 27187 | A | 13428 | 372 | 166 | CKFRPRKINTTFSHICGS*KVDIIEAA* HWLGTVAHACNPSTLGGQGRWTI*VWEF KASLANLLTPLLQ |
| 13287 | 27188 | A | 13429 | 391 | 437 | MYSLGVGFFHSTI*LLKDIFWSGVVAHT CNPSTL*GQDGRIT*GRKLETRPGNRAK LYLYKKNSN |
| 13288 | 27189 | A | 13430 | 39 | 254 | EFIPRAQDLETSQGNRVRPRLYRKFKNN *VWWCASVVPAMWEAEAGGLSEPGRLRL HSNMDNGERSCLKKK |
| 13289 | 27190 | A | 13431 | 336 | 488 | DIWPGMVAHACNPSTLGGQGGRIA*A*E FETSLSNMARPWLKKKLARHSGA |
| 13290 | 27191 | A | 13432 | 154 | 481 | FFFFFFFQRQKNGFF*KGIFFFFKLEGR GAIFV*PNLTLPG*GKSPASPL*KGGKK GGAPPP*LIFFFLKKKKLPLLGQGGLKL RALGKPPPFPSQRGGINGVKTPFGL |
| 13291 | 27192 | A | 13433 | 388 | 280 | KSKLKNGCCVALCLLGLI*SVLLA*FKT *LFCVSLDMYIDTTCSLSISIYLSIYLS IYLSIYLSIV*SVS |
| 13292 | 27193 | A | 13434 | 187 | 48 | SISSTKGPGAVAHAYNPNTWGGGGGRIT *GQEFETSLANMVKPRNS |
| 13293 | 27194 | A | 13435 | 71 | 309 | DSVSEEEEEEEEVELAHPLAAERYHCERA ET*VKALLWLELCDERVSSRSHTEEDCT EELFDFLHARDHCVDHKLFSNLK |
| 13294 | 27195 | A | 13436 | 18 | 375 | RPAVPGRPTRPINTLLGLLLIIITF*LP QLSGYIEKSTPYECGFDPISPARVPFSI KFCLLAMTFLLFDLEIALLLPLP*ALQT TNLPLIVMASLLLIIILALSLAYE*LQK GLD*AE |
| 13295 | 27196 | A | 13437 | 373 | 27 | THPYYSHQEYQSP*PLTGALSALLMTSG LAM*FHFHSITLLILGLLTNTLTIYQ*W RDVTRESTYQGHHTPPVQKGLRYGIILF ITSEVFFFAGFF*AFDHSSLAPTPQLGG HWPPTGITPLNPLEVPLLNTSVLLASGV SIT*AHDP |
| 13296 | 27197 | A | 13438 | 575 | 699 | LGTVAHTCNSSSLGGRGGWIT*GQEFET SLANMVKTCPQKK |
| 13297 | 27198 | A | 13439 | 247 | 168 | LENLIYTRVLERHREAKVHFPFSNISYS DKRTDTFVLTKTH*HTHTHTHTHTHT |

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|--|---|----------------|--|--|---|--|
| | | | | | | HTRGSHFFY*HTHTHTHTHTHTHTRG SHFFY |
| 13298 | 27199 | A | 13440 | 391 | 168 | TKKKKHPSPRGAREVFF*QPPPPPFCVL *FFIVFFLSQGGGGGGEFPPFFFPPPT SPPSPPPRGVWKKTPPFS |
| 13299 | 27200 | A | 13441 | 403 | 246 | LFPTAIIGGPPGFPPPPF*NPAPEFFFW GPKKKKKLSPPPAIKMVFFKGPPP |
| 13300 | 27201 | A | 13442 | 305 | 414 | KNNFHPSILGG*GGWIT*GQALETTSLG |
| 13301 | 27202 | A | 13443 | 269 | 409 | NMVKPHIY PGTVAHAYNLSTLEG*GTMITQGQEF*I SLVNTVIPHLYQKKKKKGR |
| 13302 | 27203 | A | 13444 | 295 | 37 | DPSYLAWHMVTPHQVSTQHTLPRPRPCL PEMNFLVSLKIWQCWPGTVAHACNPSTL RGRGGWIT*GQEFETSLANMTKTRTRGS AR |
| 13303 | 27204 | A | 13445 | 256 | 388 | FCGFWPGAEAHACCPCTLGGRGGWIT*G QKFRTSLAHMVKPRVC |
| 13304 | 27205 | A | 13446 | 277 | 374 | SRLTATSSRGGWIT*GQEFVTTLANMVK PLLY |
| 13305 | 27206 | А | 13447 | 14 | 387 | PQVIHSPWPPKVLGLQA*TTSQAWWLTP VIPALWEAKANGSLEVRSS |
| 13306 | 27207 | A | 13448 | 185 | 379 | HFGRPRPADHLRPGATNHPGPQGETPSL L*NTKKKKRGRPFKKKKLQSLVWQNKIF FLAELKLLW |
| 13307 | 27208 | A | 13449 | 168 | 346 | ISILRTNNMISIKINLRLFIDELKKRDP FIFPYFFFFFFFFFFGGNHSL*SLIVIF LIC |
| 13308 | 27209 | A | 13450 | 57 | 176 | VAESRPGPGGTATELVPPSTRLLTRAPR DLLTGKRKPPPLGRMSRARVQWHNHF*T ESCSVAQARVQQRNLGSL*TLPPKIKQF SCLSLLSSWEDCLSQRVRDCSEK |
| 13309 | 27210 | A | 13451 | 411 | 241 | PPLFFFFFFKQKFPSVP*GGGQGWDFGS LQPPPPRVKQIFCPKIPPPWPPKKGGVP G |
| 13310 | 27211 | A | 13452 | 307 | 298 | PTHSIVRNNKSL*IN*TSSMCSGLKVMR R*SQKQEDP*SGVVAHACNLSTLGGRGG WIT*GQEFSTFLCPSA |
| 13311 | 27212 | A | 13454 | 191 | 108 | GWSQTPGLGRSSLLSLPQWWDYRMQCRG VILAPHCGLDLLGSGDPPASASQVAGTA AFENCATSFWLP*FLNTQCFKIYKTKN |
| 13312 | 27213 | A | 13455 | 242 | 400 | IATLLDYLQIPNTGPGAVAHACNPSTLG GQGRWII*GQEFENSLANTVKSCL |
| 13313 | 27214 | A | 13456 | 1 | 346 | YVTTARCSCWAGTESHMGAKDFYRQEKH PFHADSGIGWA*DRLRQRYGRFGRRM*F SWARGAGEKHSLA*AQWLMPVVTTFWEV KEGRSLEPRSLRPAWATWRNVSTKIKKK KKG |
| 13314 | 27215 | A | 13457 | 166 | 289 | VRSSKLNTWVRWLVPIILTLWEA*AGGF LEPRISRLVWATO |
| 13315 | 27216 | A | 13458 | 220 | 76 | TASLKLSKSWLDVVAHACNPSTLGGPGR WIT*GQEIKTSLANMVKPSP |
| 13316 | 27217 | A | 13459 | 219 | 46 | SPPLKKKNNFFPPGVMGAPPRFFLKGPP ONFFFFFFFFFFFFFFFLKQ*EQTFL LIY |
| 13317 | 27218 | A | 13460 | 126 | 1 | VVSLGAVARSCSPSTLGVQGG*IT*SQE FETSLANMVRTLTS |
| 13318 | 27219 | A | 13461 | 330 | 420 | NICSWAQWLTPVTPAL*EAEAGGSPEVT SS |

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|--|---|----------------|--|--|---|--|
| 13319 | 27220 | A | 13462 | 577 | 766 | AQWHTSIVLAA*EAAAAGLLEPRS*SRL KCTMIIPINSHCTPAWQHMRPCLLKKNF SNSFISK |
| 13320 | 27221 | A | 13463 | 206 | 387 | VTVGETEAEAGRGHGLLTCCVLKTQKWL GTVAHAYNPSTLGG*GGRIT*DQEFETS FLGS |
| 13321 | 27222 | A | 13464 | 167 | 41 | DFWLGAVTHACNPNSVGG*GGQIT*GQE FETSLANMVKPWNS |
| 13322 | 27223 | A | 13465 | 480 | 79 | SRVISPLLILNSVISAKSLLPVGSQGKS KGQVWSTQEERLEPGVMGEFTPGPCPCL VSQGPSLCPSPPPYSFRWSRLSQAPGSI RVLI*RPAAATSAPPPAQLGLPDTAFPP PLLSRDGQWAAGRQGDRDKGLP |
| 13323 | 27224 | A | 13466 | 3 | 373 | DAWVAHASAHASVCLIIDTLLALLLIII TF*LPQLNGYIEESTPYECGLEPISPAR VPLYIKFFLVAITFLLLDLERALLLPLP *ALLTTNLPLIVMSSLLLIIILALSLGY E*LRKGLD*AE |
| 13324 | 27225 | A | 13467 | 214 | 55 | TRQKIFNLFSS*KKFLIPPARAKDFLFF IFFFFFFFFFFFFFFSCSRILLHR |
| 13325 | 27226 | A | 13468 | 111 | 358 | VMKVFYI*IGELVTQAYIFVKSHQIAHI LFHSMYVLP*IKMFWPGTVAYTYNPSTL GGHSRRIS*AQEFETSLGNIVSPHLY |
| 13326 | 27227 | A | 13469 | 199 | 607 | RIRGTSQKLLLLKKLISLIPKSQPTRGT P*TTFPPPNTTNFPPPPVAATAPDPSPA HFVSSPYNPDLGSP*PECPSPGRLQREI EQCKKDIQNFPFPTTSRICSNDLSLKGS ASRRGHLFCERPVNQFRSPKPKK |
| 13327 | 27228 | A | 13470 | 128 | 256 | EDWMWWLTPVIPTPQEVEVRGSLEPRSS ELQ*AVIVPCTPSE |
| 13328 | 27229 | A | 13471 | 94 | 388 | KGEGKTEELWSWRSHRGTHLCLLADISA LPLHYYYYYYFWQRWSLPDQPGQHGET PCLPKIQIINRAYWHVPVVPTDQEADAR *LPEPNRQRSQRPE |
| 13329 | 27230 | A | 13472 | 359 | 73 | ATEPGQLFYF*ESESHNVTQAGVQWLDH GSLQPPTPGLKPSFPLIHTGITAASHYT WLNQLLPMNVSLLTFYESPQLKIQRSHI LCNSIHIKFLE |
| 13330 | 27231 | A | 13473 | 332 | 10 | ILSKRGFPKPGRYCEVNPFLCVQGAK*V RP*EDTSLHCEIYHTHTHTHTHTHTHTH LKP*TSKELIPQKTESLFFSLCIKKSLL RFQTFPDAGSTGNSVGCACFISK |
| 13331 | 27232 | A | 13474 | 355 | 385 | IMVCIKQSCVH*KNN*FWPGTVARVCNP RTLGGQDRQTA*AQELKTSLDNMAKPCL YKKFF |
| 13332 | 27233 | A | 13475 | 297 | 425 | RKSAWWLMPVVSPL*EAEAGGFLEPGSL RSAWATWGDPHLYKK |
| 13333 | 27234 | A | 13476 | 160 | 1 | KSTGRLGMVAHICIPSTLGSQGGWIA*A QEFETSLGKILSLPEIQKSASLITW |
| 13334 | 27235 | A | 13477 | 334 | 79 | GMKEQINFLYQKRGIKPNKLQAENVVLI HYN*KLLSNSFK*LQDTASI*YFFGNYL NRPGMVAHACNPSTLGGRGGWIT*GQEF L |
| 13335 | 27236 | A | 13478 | 234 | 385 | YAKFHVSINEKKPDVAHACNPGTLGGQG KWIT*GQEFKTSLANMTKPRIY |
| 13336 | 27237 | A | 13479 | 408 | 129 | KRSINRKKGGELSSSHFLLLLLPPLDEE PSPPPFCPPLPPFPPPCPRLPQSG*GAC GRLHPC*MDLGPCKCPARKVFSHLSCSL |

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|--|---|-----------------|--|--|--|--|
| 13337 | 27238 | A | 13480 | 251 | 384 | VLQVCRSP TITPWRGAVAHVCNPSTLGGOSROMT*G |
| | | | | | | QEFKTSLSNMVKPRLY |
| 13338 | 27239 | A | 13481 | 164 | 300 | AGDDSDNSMGLLGRIHEIKFFKCLGPCM TTKFIVPALWEAEVGGWLEPTSLRLR*A LIALLQCTPA*GTVYDYKVYRPSTLGSR GRRMA |
| 13339 | 27240 | A | 13482 | 2 | 30 | TGCHQFRFLNNPFSPHPVLQLVSPGPDC LIFRYFKF*LHQLM*INPNANFCGARSF LCKFRVWIS*LRYPSLVALSVLFVFK*S VQI*VKKKKKKKKKKKKKKKKKK*K |
| 13340 | 27241 | A | 13483 | 39 | 199 | LDVGTCSPIVPASQEAEAGRLHEPTSLR LW*AMIVQLYYSLGDRARPCLYLKK |
| 13341 | 27242 | A | 13484 | 18 | 72 | TRTRSYPGSTGCQLHTFGLVSLYNCVSQ FLITNLYISIYRDIY*YIYIYLYREIYL YIYIEIYTYIERYVYIHI*ILGLQVANC IPLD |
| 13342 | 27243 | A | 13485 | 266 | 496 | LDSASDITQAGVQWCNHSFL*PQTFGLK *ASTSAS*VAEITGLSQHVWVKIIMSVS LSSYTFIQLPSILLYGNTAP |
| 13343 | 27244 | A | 13486 | 286 | 72 | HILSHCTVLWFLTPHHGTTHYKNTTGQP SIVAHTHNLSTLGG*GRWTT*GQEFKTS LANTVKCSDAWVDRD |
| 13344 | 27245 | A | 13487 | 309 | 6 | RFFFFFPPGKKGVFFQRFFFGFPRGFPP PRFFKTGPEIFFFGPLKKKKNFPPPGGK IVFF*RGAPPFFFFFFFLFFFFFFLK KNYLLLEKVQSPEKEG |
| 13345 | 27246 | A | 13488 | 183 | 459 | RRVKKICKCIIWQNNYL*KGINICSMPQ KKKKKKKKKKKKKGAPFKKKKKKKIS*G GGGPFF*KTKIKPPGGRGFFFFFGEKIM LFPAVFI |
| 13346 | 27247 | A | 13489 | 348 | 1 | CEGKDGLPIQFASWFKYAGFHSLESIFQ SFCQTKKLEAPKELSPCSQLYRYNWQLT CRRMKLDPHLLPYTKINSRPGAAAHA*N PSTLGG*GGWII*GQEFETSLTNMGETP PTRP |
| 13347 | 27248 | A | 13490 | 313 | 320 | KQGGPPLAQARVQWYNLSSGETSLPLPG SSNPPPSATGVAGTTGSPPLA*LIFFFL *DRENGDQRKL |
| 13348 | 27249 | A | 13491 | 187 | 350 | GNPVKK*IKNTTSSSGWVWWLMPIIPAL WDAEVGGLLEPRSLRPAWATERDSVS |
| 13349 | 27250 | A | 13492 | 211 | 83 | EYAKKNGKLLSWRKYL*SVCVCVCVTTC VCVCVCVTTCIKNI |
| 13350 | 27251 | A | 13493 | 286 | 407 | LGVEAYACNLNTLGG*GGRIT*GQEFET GLGNTARPCLYF |
| 13351 | 27252 | A | 13494 | 897 | 1033 | KFIFKQMQWDDHSSLQP*TPELKQSSCL RLPSTWDYRREPLHLAM |
| 13352 | 27253 | A | 13495 | 265 | 3 | HLILLEEDLTWQRGKWLKGRVSLCSLGS *TQSLTVLKKGRGLGVVAVAPSTLGGRG RWVALAQELETSLGNMVKLSLSKIQKLA GMV |
| 13353 | 27254 | A | 13496 | 319 | 1 | CFKLWDTCAQCAGLLHRYTCVMVVCYTH HPEFCYNIMGLPKYMWSYLWPKCCHAVY HFRYIKNLLPGCVAHACNPSTLGGRGGW IT*GKEFKRRMKTKV*IGIYFI |
| 13354 | 27255 | A | 13497 | 265 | 11 | VLGEVSNQHLLGAPSNRTPSEVPLAQAA QGRPSLVPPSAIVFPSYFTICYAFLSIS MPIIP*VWEAEVGELLEPRSLRQA*ATW |

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|--|---|----------------|--|--|---|--|
| 13355 | 27256 | A | 13498 | 164 | 22 | GIKRKLIKSGVVAHARNSSSLAGRGGWL T*GQEFETSLAKMMEIPSV |
| 13356 | 27257 | A | 13499 | 277 | 363 | TYLCYIFNICLFVGEIEKQR*LI*FHRS TLNGHILYVRPVSPNPSQAVASPVTCTY MPTWPEVVEESQKK |
| 13357 | 27258 | A | 13500 | 1 | 270 | YTCSVLLLVTVNLLLCLIYKLNFIIGML RKKTVYIYIERIQYYLKFQASTGCLGVY PTV*PYMYTYTYMYMYMYIYIYIYIYIL CLCLDG |
| 13358 | 27259 | A | 13501 | 170 | 383 | ILYSSKLTYPSPQIVIFFCGKST*GWVW WLMPVIPAI*EAEVGGSLESTSLGQAWA TGRKAFFVFYKEYKN |
| 13359 | 27260 | A | 13502 | 31 | 402 | GDYLYLREGWQEPARREQHAQNLEPNRT FTPHLICLTNYRLFSLAWSECEERRNET TDKNQTVKDLALDMKRVLPFS*GHQKVI KVGVVAYACNPSTLGGQGQWITRGEEFK TSLINMAKPYLY |
| 13360 | 27261 | A | 13503 | 232 | 446 | RNRPGAVAHACNPSTFRGRGGRIMRLGD *RS |
| 13361 | 27262 | A | 13504 | 196 | 390 | VNKAEKKHLYFVARKEILRPGVVVHTCN PSTLGGRGGWII*GQEFETSLPLPKTQK LAECGRGCL |
| 13362 | 27263 | A | 13505 | 146 | 7 | LKYVLYWLGAMAYTCNTSTLGGQGGWIS *GQEFETSLANMVKPCLF |
| 13363 | 27264 | A | 13506 | 177 | 18 | SQNFGRPRQQDHFRLDGRHSETPSLQEK VKKLTRHGGACVQSQLLERLRREDHLGP GGGGCSVP*SVNII |
| 13364 | 27265 | A | 13507 | 117 | 338 | NKILKKKKGGGRFKESKFTSPGLQGNSF FMGPPKLNSRAGV*QRREGKNLGVPQLK PFEANPLFARGPNTKNP |
| 13365 | 27266 | A | 13508 | 306 | 443 | LARYEPAVRTRAC*AQWLTAVIPVL*EA EAGGPLEARNLRPAWAT |
| 13366 | 27267 | A | 13509 | 146 | 390 | KMFKGHEQAAHRKKKKRGGRFKGSKFTS ACLQRNIFFLGPPKLNSRAGV*QRGDWK NPGVTQFNRFEENPLFARGPNTQKP |
| 13367 | 27268 | A | 13510 | 119 | 356 | NEDRNLRGGCPGR*LLRTEGVCSNPAGW SGIRWCEESGGLFWRVVRGTESVLFSGL FVCCVFAQEKAKATGRAEVSLCP |
| 13368 | 27269 | A | 13511 | 221 | 21 | EDLQRDKPLGSCYSTCGWAEQWYLQHPG GAGSKCRIWLGAVAHAYNPSTLGGQGRW IT*GQEFLSL |
| 13369 | 27270 | A | 13512 | 163 | 418 | TFPDDQCLMLQDHACVKRSIQSA*YLTP AVLAHWEAEAGGLLEPTSLRPAWAT |
| 13370 | 27271 | A | 13513 | 239 | 21 | FGNLGGPGGRTACIQFSLGNIVRPYFYK TKPKPKPNQNKTKIS*AWWCMPIVPATR KAEVGESLEPRRSRLQ |
| 13371 | 27272 | A | 13514 | 135 | 11 | KFFFWPGVLAHAYNPSSLGAQGGRIT*G QEYETSLANMVKS |
| 13372 | 27273 | A | 13515 | 162 | 57 | EGTLRSRRPPLGGWVT*GQEFETSPANM VKRCLY |
| 13373 | 27274 | A | 13516 | 424 | 54 | PKRGFFPTPFIWVPPVFPLPPFFKPPPR IFFLGPPKKKFFSPPPGLKIFFF*KGPP PFFFFFFFFFFFFFKKKKKRLGGFFFFF FWARPFSFLSLFFFKETIPLYYNIWMHK DSCKAVIHHYH |
| 13374 | 27275 | A | 13517 | 310 | 349 | GGGPLKKKLFFSRGGERFFFF*GAPPFF FFFFL*SSKIFIFFLKSFFFFFFFFFC FFFFFSQILFFISSPCFVFFFLNYTSRT |

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|--|---|----------------|--|---|---|--|
| 13375 | 27276 | A | 13518 | 273 | 393 | CSYVCALILFKGNTYSRKARHILW IKCLSYRKKATTLGGOGRWIT*SOEFET |
| 13373 | 2/2/6 | l A | 13318 | 273 | 393 | SLSNM*KPQLY |
| 13376 | 27277 | A | 13519 | 450 | 139 | IPPIALVSPFAKHTWQQQMGLVRRSSKG NNMSKGWEIIHPSRIFCSNHTLLRIALW LGAVVHTCNPSTLVGRGGWIT*GWEFKP SKTSMERFCILSRHKRTRGS |
| 13377 | 27278 | A | 13520 | 47 | 427 | KMKQLFEMLVFQNWTIFLSHSIFRTIR* LTLEPLMFRYYFKQ*RTLLPPKF*DRVW LCHAGGCL*CSGTVSAHCNLRLLGSSDP STSAS*VAGTVGAGHHIWLILNNRELPK QKFFINSSRNLFFT |
| 13378 | 27279 | A | 13521 | 199 | 98 | SLPSVKLSICCEFPEDIVSKDPIPVVLP VVKRESCSLCALPNLLPK*EKTNIQVP* VFQSTIKAKAQLGMVAHACNPSTLGGRG GWIT*GLR |
| 13379 | 27280 | A | 13522 | 314 | 18 | QTLNFYILKIYNIISLVHC*IFEARFQI LV*V**NYPF*SLICFTFSWHETQNT** KNLIIWAGAVAHTCNCNTLGDQGRRIAL AQEIEPSLGNIAIQ |
| 13380 | 27281 | A | 13523 | 18 | 231 | CPPAVFGTSIEQIQLKYDIKD*KIGQAW WCAPVIPGTQAEVGGSLEIRSSRL*CAM STSMNRHCVPAWAT |
| 13381 | 27282 | A | 13524 | 239 | 465 | RVQVSECLLHREKCLYFQLGLS*LIPQT GWLKQQKLPGTVAHTCNPGTLRGRGKRI T*GQEFETSLANIVKPRLY |
| 13382 | 27283 | A | 13525 | 388 | 468 | SLRLGTVAHTCNPSTLGG*GGWITRSG |
| 13383 | 27284 | A | 13526 | 342 | 369 | CTLNTLLLYSISDFGVSAFLATGGDITR NKVRKT*LRLGTVAHTYNPNTLGGQGRR LT*AQEFKNSLSNIGRPHLYKTKKTKKT |
| 13384 | 27285 | A | 13527 | 241 | 231 | EYVCIWSHSSLYFSSSLYIHM*VCVCVY IYVHTNSHIYTHMYIHTHTHTHICIYKL EEKYKEL |
| 13385 | 27286 | A | 13528 | 241 | 231 | EYVCIWSHSSLYFSSSLYIHM*VCVCVY IYVHTNSHIYTHMYIHTHTHTHICIYKL EEKYKEL |
| 13386 | 27287 | A | 13529 | 34 | 299 | SAPASASPWGIGVLYRPLACPEDRFSPG PEANCGEIETTELRVTLSPRLECSGTIT APCSLDLQGSRDPPPSAS*VSETTGASH HAQL |
| 13387 | 27288 | A | 13530 | 158 | 45 | SGHRSRARWL*PVISALWEASAGGSPEI KSLRNRRPG |
| 13388 | 27289 | A | 13531 | 342 | 1 | CFFLKGAPPFFFFYFFNFFFFFFLVGTD KLILKVTWKWKGPKIDKAVPKKNNQARG LP*PDIKIFYKVWLGAVANAYNPSNLGG *GGWIA*E*EFETSLANMTKPQYKKYKK LA |
| 13389 | 27290 | A | 13532 | 589 | 742 | RIMKMLRIKICGTGPGMVAHAVNPSSLG DGWIT*DQEFKASLANMIKPHLY |
| 13390 | 27291 | A | 13533 | 74 | 446 | HVGIPSRLTSVSHPRHCKHPRTESEHVY CAIEARHYQCKVSRPSDAAGSEGRPRDM TQDTEVADTPPPNISSITATRTMATIGV GVVAHAYNPNTLGGQGRRIA*AQEFKTS LGNLAKPCLYKH |
| 13391 | 27292 | A | 13534 | 1941 | 1040 | AFHLLPYLSSGFYCSLGPCFGLGSSHMA AWHKEPLHNACSDSRRSAPIRQGLGSPS ATHDTHTRTLAHICKEIFKERLHEIKER EIDS*RG*NTQR*VEREEAENKYKPTEI |

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|--|---|----------------|--|---|---|--|
| | | | | | | NTEIENHKQQEMLRHAGEERENSPREAE RKCRNEKCEIKSRNSRKEARLRKKVKFK TNEKGKG*QIITVHKEKREVGRERRGRQ NKKRTKSTQHVTQKGDMR*SVKEEPHLR RAKRNSNKMKNERYVLRQDTDHSCEQKE KMRQRHTRKKLARETWKWVRHTLNREQR AKPRKKETKEIHIHSAILKC |
| 13392 | 27293 | A | 13535 | 1192 | 1476 | EIKRKWGPGASCHACNPITGRPRRVDHL RSGVQGQPGQRGETPSLLKNIQISWAWW CAPVI*EIKRKWGPGASCHACNPITGRP RRVDHLRSGVQGQPGQRGETPSLLKNIQ ISWAWWCAPVIPATWEAEAGGSLETGSG GCTEPRSHHCTQAWVTE |
| 13393 | 27294 | A | 13536 | 55 | 132 | RAESCSLAEDGVQ*GNLSSLQPPPPK |
| 13394 | 27295 | A | 13537 | 7 . | 325 | SPVEFRLGEPTKGTSSFGKRRNKTHTLC RRCGSKAYHLQKSTCGK*GYPAKRKRKY NWSAKAKRRNTTGTGRMRHLKIVYRTFK HGFREGTTPKPKRAAVAASSSS |
| 13395 | 27296 | | 13538 | 259 | 274 | KFEAAVCYHCTTLSL**CHTVCFLSFFL LEIGYHYITQAQSGAMIAHCSLKLLGSS NPPVPAF*VAETRSACYNAWLVFVKFLM GL*ELWKDMS |
| 13396 | 27297 | A | 13539 | 3 | 68 | QASVLPQKQLMSWQKLSESTFVKFWNLV KTGRLGEEISCCLVVREYYSISDCLATI KLPASHLSMRKPRHKDFKSTFLISTKNQ GNHGHGTKGNEVNNFQQRISV*KTYFKK YNMRPGAVAHTCNPSTLGG*DWWIT*GK NCQNQLS |
| 13397 | 27298 | A | 13540 | 268 | 468 | YRRLISKKFFKHRWKSVSFFKFSFFWLG EVAHACNPSTLGGQGGKIA*AQEFLTSL GNIVGPCLYKK |
| 13398 | 27299 | A | 13541 | 308 | 437 | FSWAFEIGSQAEVQWHDLHSL*PLPPRF KRFSHLSLPSSWDYR |
| 13399 | 27300 | A | 13542 | 7 | 244 | AKTAPLFF*FETVSCFVAQARGQWHDPG SLQPRPPGQETSMIKTSSDPPPPASQVA GATGMGHHAQKI*FLVETGSPHVSQGGL ALLK |
| 13400 | 27301 | A | 13543 | 50 | 175 | ALPAIHTAVGQCSVEGFCVLSDPEGDGA ARMKLVRFLMKLSHETVTIELKNGTQVH GTITGVDVSMNTHLKAVKMTLKNREPVQ LETLSILGNNIRYFILPDSLPLDTLLAD AEPNVKSMNREAVAG*R*G*AREIFDEI ES |
| 13401 | 27302 | A | 13544 | 47 | 362 | VAFQGLQVPATNPANFFFFWKGGFFFVP QGGRQGEKIGLRDPWPPGVRKIPGPTLS GTREKGAPPPPPIYF*FFWKKGGQKGGP GGF*TWDPKGPPSPTPPKGGD |
| 13402 | 27303 | A | 13545 | 97 | 351 | NKKKKGPPPFF*KKRVGKKKKKGARAGG PPPKPPFFGGPRGGGPRGQNSKTPRPKG GNPPFKKKKKKKRNIFPAGPMGLKGGGHL |
| 13403 | 27304 | A | 13546 | 214 | 32 | NYIKISSVDGGAKIK*WT*NLKCLVLSV KNITRWVDCLSSGVQDQPGQHGETPSLL KTRKTSWA*WRLGLIQRWRKMPWPSR |
| 13404 | 27305 | A | 13547 | 350 | 159 | QTGTLSQKTKQKKQAQWLMTVILGL*EA KAGGLLEPKSLRPAWATWQDPIYKKKFF LERKTWR |
| 13405 | 27306 | A | 13548 | 367 | 149 | FFFFFFFF*TGSHYVAQNWTQIPGLNLP ASASQVTATTGMHHHTRHTPFPSLTSHT |

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|--|---|----------------|--|---|---|--|
| 13406 | 27307 | A | 13549 | 321 | 2 | QSVSTASWTYLQNSGRH GLVKVTHHGYDRNLGYPDSQASVLSSFY |
| | | | | | | TA*MVQ*LQLPDKVQIYPAHPLFINDMP P*WLLKIPSFGPGTVAHPYNPNTLGGRG RRTTRDREFETSLANVVKPHLH |
| 13407 | 27308 | A | 13550 | 216 | 13 | GYSGKETVFSMRKGQQSGPCLQGPSIPM GKAGINQIIPKTTLGGRGGWIA*GQEFK TSLANTVKPCLY |
| 13408 | 27309 | A | 13551 | 199 | 391 | KDFSIFIACFKRPFITGSQGQEQWLIFP HAYNPSILGGRGRQIT*GQEFLTPARLG NMVKPCLY |
| 13409 | 27310 | A | 13552 | 70 | 239 | ATCVKN*RTSWAWWCVPVVPATHEAAAG GLLEPRSSRLQCSVIASVERHRTSVWTT |
| 13410 | 27311 | A | 13553 | 105 | 257 | GQAQWLMPVIPALWEAEAGGSFAPRSLR LA*ATVPGPNNFLKRAFHSLLNLFLP |
| 13411 | 27312 | A | 13554 | 499 | 165 | Y*MESHFVTQGGLQWCSLGSLQAPPPEV GGWLELGRORLPMKPKIAPIWTPSPG |
| 13412 | 27313 | A | 13555 | 415 | 719 | YTDKSIRSISLLPVKGSTHSMCPVKFIQ LQEAGGIHMAKLSGQRVDREWRLGTVAH TCNRSHLEGKGGQIT*AQVFKTSLGNMA KSCLCKKYQKLSWIWQH |
| 13413 | 27314 | A | 13556 | 224 | 523 | DKVSLCHPGWECGWVQSQLTTASISQG* TILFPOSPE |
| 13414 | 27315 | A | 13558 | 355 | 1 | QVSLQLPYCVLFQFHIYNKQAALLQRCY VSATNLLINAIWQYVNSLKMCEENQNVS LQNMPF*HRNYFGEAGHGGSCL*SQLLG RLRH*NCLNLGGGGCSELRLRHCTPAWA TKASPS |
| 13415 | 27316 | A | 13559 | 73 | 259 | KYVPHKGKISERRLCSVAQAGVQWCDHG SRSLEVLGSNDLLASAS*VAGITGCWGS SDPHTT |
| 13416 | 27317 | A | 13560 | 205 | 21 | VVKISEDFLLGDAKKWAYQEDIKRLRLG RGAVSHTCNPSTWRGRGGWIT*DQEFET SLPKC |
| 13417 | 27318 | A | 13561 | 254 | 481 | LMALLPGSSDVDLSEYGWBHFNFVTLIS KEIFILLFF*DGVSHLLPRLECSGMISA YCHLCLQGSSDRRDFLKKQ |
| 13418 | 27319 | A | 13562 | 174 | 369 | TFFSPSMFVEPGPYYIAQAGVRWLFTGA IIVHCSLKLLALSDSPTSAS*VTATTGM PPHLAFTVK |
| 13419 | 27320 | A | 13563 | 371 | 109 | LFSKAGRCILQNLLCCMVSGKCWPMNGI DVTREYPTFIAHRVLTYAATSGSDFLGQ AQWLMPVIPAI*EANAGESLEPKSLRLA *ATVPGPRSLSQTLLHRSELCGL |
| 13420 | 27321 | A | 13564 | 206 | 486 | RQLAAVHILVTPLPDHVTWANYVTSLSL LSSSENGVNNDNTHFIGLLLRDYK*GWV *WLTPVIPALWEAKVGRIARGQELENSL GSKARPRFV |
| 13421 | 27322 | A | 13565 | 212 | 398 | SRVRGCFPFNLPKSSCI*ECGQGAVAHA CNPSTLGGRGGQIA*AQEFKTSQGNVAK PHLYKI |
| 13422 | 27323 | A | 13566 | 26 | 395 | YSPVHTDKCSGVRKLGLFFFFFFEKEFH FFSPAWKARAKIGLNGTPLSQGKGNFRP KPPKKRGKRGRAPQPGKILNFKKKRGFS MGAKVNPNFGPKGNPPP*PPKGAGKKGG TPRPGPFFFFF |
| 13423 | 27324 | A | 13567 | 400 | 195 | ATRVSLAPTKNKINWGWWPTPVIPPPQE GEAGEFL*PQKWRVRLNKIVPLPSRPRD |

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|--|---|----------------|--|---|---|--|
| 13424 | 27325 | A | 13568 | 316 | 154 | KTRLCFKKKKKN SQPFPGLRWEDRLSRGVQNQPKQ*LMPV IPAFSGAEVGGSLEPRSSKPA*ATNNLK |
| 13425 | 27326 | A | 13569 | 297 | 475 | SKVIIGGQICDKASKVSIVESSWWGWGC FDYFFIY*ETKSHSAAQAGVQ*CKHSSL QP*PPGLKQSLLPWPPKSAGLTGVSYGT WPI |
| 13426 | 27327 | A | 13570 | 116 | 332 | NRVLLLPKGEYRGTISAHCSLKLLGSKR PPTSAA*GDDETTGVCHHTPV*FLKTFF IEIRPGYVPRVGHWRF |
| 13427 | 27328 | A | 13571 | 233 | 405 | TVPELRASCRLKKKKKKKKGEKNLKKIK GFPGPGPRV*GPEAKNPGGGGPGIPKGP G |
| 13428 | 27329 | A | 13572 | 408 | 3 | TFCDYFKTPPPGKFFFINGPPSFFLNRG PSFFFFPGFPPPFLKNFFFFFPLVVFKGG GYKRGVFPPKKKGPPQPLFFFFFFFLI* KKTRPGTVAHPCNPSTLGGQGRWIT*GQ EFLSSLAKMAGRVVRPGNCESV |
| 13429 | 27330 | A | 13573 | 273 | 406 | IKEFKAERGGHS*NTSTFGGQGRWIA*S QEFETSLANMVKPHLY |
| 13430 | 27331 | A | 13574 | 385 | 38 | KKNSPPPPGKNFFFF*GPPPSPFFFFFF FFFFFFLGGKKTFFFPPPSRFFFFLKP FPPKNQGPKNFFPPKKKIGD*ARPPPLT GGAKGAPLFKKKKKKKKKLKVRPGAVAHT CNS |
| 13431 | 27332 | A | 13575 | 230 | 53 | HWKVLKENKQIFTKISFKMNAIKDSVGQ AQWLMPVIPAL*EPDMGGPVEPKSLRPA WAT |
| 13432 | 27333 | A | 13576 | 406 | 33 | VNSIVWVSSPFRVSTFISFFELKSCSVT QAGV*WHDLSLLQLQTPGLKRSPAPSRG LSFYLSSIFYPHSSQTELFVGTLNAASF TNSRLLYLSLLLCGKYHPLVPSLPLSTI WYFSLRVSHHFP |
| 13433 | 27334 | A | 13577 | 426 | 294 | GGFPSPPVFKPPPQFFFFGPLKKKISPP PPGEKKIFF*KAPPP |
| 13434 | 27335 | A | 13578 | 268 | 3 | LQAKGPAMGEAGARCSSEVWGWPRKGFD L*VSR*PSFDSHVRIGRVQRLMPVVPVL WETEADISFEPCSSRPAWASWRKTYIQK PQRI |
| 13435 | 27336 | A | 13579 | 395 | 49 | EKKKFFVCFPGFPGNPPNPSPQFF*KGL ISPSGSLRTRRGFFP*RVFFFFLKKQFP LSPRVECNGIIPDP*PPGEVTSTPQVA GAIGPPPPPRVNFYFFVKKGFLNVGPMF FFF |
| 13436 | 27337 | A | 13580 | 68 | 466 | GASPAQGSTLHLVILPRYFFKIPTVRTE SFSGSLVTSPPPLHFLPLNKERGGPGIP LPCPQLLQVLGGTSLPPVPSLPDTSQDK WPLHGVPPGHVCS*PLAGDGAWPPSPHW IPLNPGTSKSLQPAPPWNSA |
| 13437 | 27338 | A | 13581 | 67 | 249 | ATAPGLLCSYKIFSCQLQWCVPVTQLAW ETEAGGSLEARSSRL**TMITPVNRHCI LAWAT |
| 13438 | 27339 | A | 13582 | 359 | 3 | KQDSQWVAAAPASVAVSTCWRGLPLPWS GGQNRGKGSLPLQVHRGA*GTENKNQGG TPRPGGGPGPSAPRGSSLGAHRKLPVHH TTLSSSRSALPPTPRHPAPSSPPCTEEF HRTRPI |
| 13439 | 27340 | A | 13583 | 174 | 1 | FFFFVETESHSVAQARVLEYSGAIPAQ |

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|--|---|----------------|--|--|---|--|
| | | | | | | CNLDNLSSSELPASAS*AS*VAAXTGT* KR |
| 13440 | 27341 | A | 13584 | 192 | 206 | LFFLEVGSCYVAQAGFEFPGSGHLPLSA S*VVGSTGVPHHTQLV*SFSSLYNLERN C |
| 13441 | 27342 | A | 13585 | 244 | 28 | KKPENQEINYIFYHLFNVHEQIRISLGP GAVAYNCNPSTLRD*GGRIT*AQEFKTN LGNMARPRTRGSTRTF |
| 13442 | 27343 | A | 13586 | 312 | 701 | RGPEET*PRTRKSSPRPTRSCESVSKLA RPPRRCSAAPAQVPRLSLRSPKPDPPRV SSAEKCAPLPLLPECSETGALPRNSFLC QNASSPLLSLGLPPSPTVQALQPRALHQ HLGSTNKEDAHVAPAKKK |
| 13443 | 27344 | A | 13587 | 410 | 292 | GYMIKQQTVYHECRM*ANSHLHLPPEGL LRAVTLWRRAP |
| 13444 | 27345 | A | 13588 | 428 | 36 | TPPPFFFFWAQKKKKIFPPPGGKIFFFL KGPPPLFFFFFFFFFFFFFLKKFFGLK GPFFFVQD*QGLENPKEGSSLGWEKLGR ALLPQQRSFVPGLGPTRLFWGLVFWFFG FFFLPFGLCFFFALIFNC |
| 13445 | 27346 | A | 13589 | 3 | 364 | TAPDDQGRPYQAGEPAAHVRADSTHGLG A*RRVAGHLPPRVGAPHHPGASSREGAP PLHPPPNL*HRRPNGSCRFLPGPAAPPQ GAEGGRGRDRRGTHSVAQTGGPGGFGSG VTPSWRSS |
| 13446 | 27347 | A | 13590 | 778 | 910 | DRIRRSGAVAHTCNPSTLGGQGERTA*G QEFKTSLGDMVRFCLY |
| 13447 | 27348 | A | 13591 | 230 | 3 | KLVNILVEKSLVAMKSTVSEGKMVIRSP ASLGMVAHTHSPSTLGGQGRQIA*AQEF ETILGNMAEPCLYKKHSVY |
| 13448 | 27349 | A | 13592 | 223 | 340 | LTPIIPEPWESEVVGSLE*LTPGAVTHA YNPRTLGIRSGRIT*GHEFQTTLSHTMK TRLYHELL |
| 13449 | 27350 | A | 13593 | 35 | 220 | DRASLSPRLECSGMIVAHCSINLSGSSD PLTPAS*GDGTTDTCHHARLIFTGADFC IDASS |
| 13450 | 27351 | A | 13594 | 87 | 369 | NVQKTECEISGKMQIWQKGSVKTKCSNG LFNFPIFSKKIASCKVKKLTRE*KYKSQ ARWCTPVIPATEAEVRGQLEPRSLRPAW ATYQPHFKS |
| 13451 | 27352 | A | 13595 | 261 | 489 | SWVNERMVVG**KHETSQAQWLMPIIPA LCEAEVGGSLEARSWETSLCNIVRLHLS KKKRGKGRKRGGNQIAPSRE |
| 13452 | 27353 | A | 13596 | 238 | 2 | NDCLWWLFRIPANVSTFGLLHMSLKVNT PGNNRFKSELGTRCLIHTCNPSILGGQG GWIT*GQEFVTSMQKGSAVKNQ |
| 13453 | 27354 | Α | 13597 | 36 | 687 | RDVHRSTYQAGSKQDWGPGEAERLSSR RGAYSCPVPITFAEGKTRMGRDKMRLIL GLSWGPSLTLLLPITNAPRRPGM*EPAL PGNSTS*SGAVRFPGGGRK*EDSAESWS CFCSHPSPSSGPNPPSPPSAVCMLPGLS GLQR*PKQLSPPPALSLPVSSLLVRLSP WPPTSSHLLPQALPQSLHPQGSHRAVND SFSM*GMVLGSRRNRGCMEA |
| 13454 | 27355 | A | 13598 | 367 | 468 | KKQRRGREPWLTPAIPALWKAKAGGSP* VQSSRP |
| 13455 | 27356 | A | 13599 | 183 | 380 | LTSMLAVDNSSVEKTCPQAMRISRPGAV AHTCNPSILGGQGGLIA*VQEYETNLGS |

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|--|---|----------------|--|---|---|--|
| 13456 | 27357 | A | 13600 | 161 | 657 | MAKTHLYKN LIQGCWCSLFFSTRVFLAAIGMKSQWCR PVAMDLGVYQLRHFSISFLSSLLGTENA SVRLDNSSSGASVVAIDNKIEQAMDLVK SHLMYAV*EEVEVLKEQIKELIEKNSQL EQENNLLKTLASPEQLAQFQAQLQTGSP PATTQPQGTTQPPAQPASQGSGPTA |
| 13457 | 27358 | A | 13602 | 121 | 423 | MIKVNSFGLYLYSQVIYIYIMKYYTAIY LKDFFFKDGVLTRHPRWNTVTTQCSLEI LGSTDPPASAS*AAGTTNTSHHGQLYSY FKKRPTYAEMEQYKIKK |
| 13458 | 27359 | A | 13603 | 1889 | 1717 | VPRIRPLSWTPPSSI*RPKPPSSTFSHP GKPSMGPPGLNRCPVQRALLPGWYQHCG R |
| 13459 | 27360 | A | 13604 | 81 | 267 | ETCCIKNNTLK*I*SQMLWCAPIVPATW QAEVGGSLDPRSSSL*CAMITSVNNHCT PAWAR |
| 13460 | 27361 | A | 13605 | 267 | 418 | THASGMVTHTCNPGTLRVSAGRIT*GQE FKTSLGNIARPHLYKIIINKYI |
| 13461 | 27362 | A | 13606 | 428 | 24 | CPESNPRKREPTLKSEPILTLPITGLIL DDGNSPTAAAGSVFAETLQPQCSSLCC* VKSSPWPTASLPQPFGSAPQTLPVRYAL IPGPSLVSTSLGPRLAPGLPGSPSPPSP QVTLDSERYPSPTPCIAPALED |
| 13462 | 27363 | A | 13607 | 267 | 442 | RPPPTLKVPWLGVEVHACNPRTLGGQGG SIS*AQKLENSLSNILRPHLYQKQQKQQ KK |
| 13463 | 27364 | A | 13608 | 3 | 280 | YRLSVICEDPMREREQTCFPPPPSFPPN RYCSTRDGGMEGSQGDFRKGFPA*APCR SGGGWRGCCSPAGAPGSPLCGSSQGGPV SPWGQKRS |
| 13464 | 27365 | A | 13609 | 291 | 248 | EKRAHGSQPMKGRERNSMCKSSEFRVVA WSLAGVKGDGGR*GSGAGGSPKLG*AV* LDPEGHAGQAVFCGEAGARTQIGGKG*R RDQAPLPLSPNLCSGSCLPTKHSLARMP LRVKSYSSAQLGRTTCTRPSPPTITFDS S |
| 13465 | 27366 | A | 13610 | 267 | 3 | HTDLLYNTPTHPISPRCDPKHTAIPDKQ SLLFFFFEMESCSVARAGVRWHDLRSLR PLPPRF*KFFCCSIPSLYCGRSRGSSQT YTS |

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|--|---|----------------|--|--|---|--|
| 13470 | 27371 | A | 13615 | 197 | 428 | KTMVGLKTSASFHQDFIQIPLNHNLSVP *TMLGSQPRFLFPPGTVSHICNPSTLGG RGGWIT*GQEFETSLATMVKP |
| 13471 | 27372 | A | 13616 | 445 | 550 | ISITRGRARWLTPVILVLWEAEAGGSP* GRSSRLP |
| 13472 | 27373 | A . | 13617 | 3 | 435 | TMVLSPADKTNVKAAWRKVGAHAGEYGA EALERMFLSFPTTKTYFPHFDLSHGSAQ VKGHGKKEADALTNAVAHVDDMPNALSV LSDLHAHKLRVDPVNFKLLSHCLLVTLD RHLPAEFTPAVHASLDKFLASVSTVLTS KYR |
| 13473 | 27374 | A | 13618 | 719 | 918 | CEGRREKWKIGRERKGRGRRKGEQMGRE GKGREDGGRKRPCTSRPRSSSRDRSNII ISEHASAVEA |
| 13474 | 27375 | A | 13619 | 847 | 938 | WLMPAVPALLEAEVGISLEAQSCRPPWA TQ |
| 13475 | 27376 | A | 13620 | 349 | 409 | NLWSWPGAVAHVCNPSTLGG |
| 13476 | 27377 | В | 13621 | 25 | 189 | MVLSPADETNVKAAWGKVGAHAGEYGAE ALERMFLCFPTTMTYFPDFDLIHGSAQ* |
| 13477 | 27378 | A | 13622 | 142 | 356 | RIVENEKINAEKSSKQKVDLQSLPTRAY LDQTVVPILLQGLAVLAKERPPNPIEFL ASYLLKNKAQFEDRN |
| 13478 | 27379 | Α | 13623 | 18 | 1353 | AGAAQCEVVSAGEAGARTMSEADGLRQR RPLRPQVVTDDDGQAPEAKDGSSFSGRV FRVTFLMLAVSLTVPLLGAMMLLESPID PQPLRQISGIALFCSFKEPPLLLGVLHP NTKLRQAERLFENQLVGPESIAHIGDVM FTGTADGRVVKLENGEIETIARFGSGPC KTRDDEPVCGRPLGIRAGPNGTLFVADA YKGLFEVNPWKREVKLLLSSETPIEGKN MSFVNDLTVTQDGRKIYFTDSSKWQRR DYLLLVMEGTDDGRLLEYDTVTREVKVL LDQLRFPNGVQLSPAEDFVLVAETTMAR IRRVYVSGLMKGGADLFVENMPGFPDNI RPSSSGGYWVGMSTIRPNPGFSMLDFLS ERPWIKRMIFKLFSQETVMKFVPRYSLV LELSDSGAFRRSLHDPDGLVATYISEVH EHDGHLYLGSFRSPFLCRLSLQAV |
| 13479 | 27380 | A | 13624 | 18 | 1353 | AGAAQCEVVSAGEAGARTMSEADGLRQR RPLRPQVVTDDDGQAPEAKDGSSFSGRV FRVTFLMLAVSLTVPLLGAMMLLESPID PQPLRQISGIALFCSFKEPPLLLGVLHP NTKLRQAERLFENQLVGPESIAHIGDVM FTGTADGRVVKLENGEIETIARFGSGPC KTRDDEPVCGRPLGIRAGPNGTLFVADA YKGLFEVNPWKREVKLLLSSETPIEGKN MSFVNDLTVTQDGRKIYFTDSSKWQRR DYLLLVMEGTDDGRLLEYDTVTREVKVL LDQLRFPNGVQLSPAEDFVLVAETTMAR IRRVYVSGLMKGGADLFVENMPGFPDNI RPSSSGGYWVGMSTIRPNPGFSMLDFLS ERPWIKRMIFKLFSQETVMKFVPRYSLV LELSDSGAFRRSLHDPDGLVATYISEVH EHDGHLYLGSFRSPFLCRLSLQAV |
| 13480 | 27381 | A | 13625 | 1 | 384 | QSFRGTGRKRERERKRMSLSDWHLÄAKL ADQPLTPKSILRLPETELGEYSLGGYSI SFLKQLIAGKLQESVPDPELIDLIYCGR KLLDDQTLDFYGIQPGSTVHVLRKSWPE |

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|--|---|----------------|--|--|---|---|
| 13481 | 27382 | A | 13626 | 980 | 1089 | PDQKPEPVDKEAAMRD KRIRIQLTGGLYPVPPPHPPPQSPPIFP RPTSPTRT |
| 13482 | 27383 | A | 13627 | 116 | 587 | VCGELRADSWPVPSQPEQASGPQKQAFI WPEAPSRSARLPITYTDYWDSRLQTQES QMLGSMARKKPRNTSRLPLALNPLKSKD VLAVLAERNEAIVPVGAWVEPASPGSSE IPAYTSAYLIEEELKEQLRKKQEALKHF QKQVKYRVNQQITLRKQ |
| 13483 | 27384 | A | 13628 | 150 | 484 | VAFPQASRGVRKTEVGEQQGQGTACGGC GHQCPPPTWHIQRAHCVPSTCGAGGWHL QGRASCRRPPSQSPQVYQTQVGRQDPHF GVGRDSRGELAWSSFIHPYLLSVCNPL |
| 13484 | 27385 | A | 13629 | 330 | 397 | ARCEWLTPVIPALWEAEAGGSH |
| 13485 | 27386 | A | 13630 | 10 | 137 | SFTGAVILIIAHGLTSSLLFCLANSNYE RTHNLFFLNDFFFS |
| 13486 | 27387 | A | 13631 | 380 | 98 | FQWLVSFTATLWFEERHRKNKIEREERR AKGERGDRKEERREEGGEERGRRGGERS DKREPKKKSKEESNHPKVVKFSFICSFC FLTPFFPVFF |
| 13487 | 27388 | A | 13632 | 56 | 827 | PLFEAFTACGFVHDCGLLIHPEETCGLQ PISSDYIEAILQSELKRCPSGDMKGQWI VPCLSCSDNRTCDWREITWQPHNCQYGV LTKPQLQQCLGGRKILFIGDSTNRGIMY YLIERLNETLQEWQKVHGTKFYHNVNGG KTLISYSYYPQFWISPSLRPTFENALEH LLQRSRPLENTGQTVLVVGGVQWLNSNH LQIIHKVLKSPFTTLNQPVTKSCLQAIY FPRLSPTLHSNCLDLVYSFTKSFNIYFV VQFLN |
| | 27389 | A | 13634 | 3 | | SGPCRTTVAPLLRAAPVEHCVAALRPTD STMLKKFDKKDEESGGGSNPFQHLEKSA VLQEARVFNETPINPRKCAHILTKILYL INQGEHLGTTEATEAFFAMTKLFQSNDP TLRRMCYLTIKEMSCIAEDVIIVTSSLT KDMTGKEDNYRGPAVRALCQITDSTMLQ AIERYMKQAIVDKVPSVSSSALVSSLHL LKCSFDVVKRWVNEAQEAASSDNIMVQY HALGLLYHVRKNDRLAVNKMISKVTRHG LKSPFAYCMMIRVASKQLEEEDGSRDSP LFDFIESCLRNKHEMVVYEAASAIVNLP GCSAKELAPAVSVLQLFCSSPKAALRYA AVRTLNKVAMKHPSAVTACNLDLENLVT DSNRSIATLAITTLLKTGSESSIDRLMK QISSFMSEISDEFKVVVVQAISALCQKY PRKHAVLMNFLFTMLREEGGFEYKRAIV DCIISIIEENSESKETGLSHLCEFIEDC EFTVLATRILHLLGQEGPKTTNPSKYIR FIYNRVVLEHEEVRAGAVSALAKFGAQN EEMLPSILVLLKRCVMDDDNEVRDRATF YLNVLEQKQKALNAGYILNGLTVSIPGL ERALQQYTLEPSEKPFDLKSVPLATAPM AEQRTESTPITAVKQPEKVAATRQEIFQ EQLAAVPEFRGLGPLFKSSPEPVALTES ETEYVIRCTKHTFTNHMVFQFDCTNTLN DQTLENVTVQMEPTEAYEVLCYVPARSL PYNQPGTCYTLVALPKEDPTAVACTFSC MMKFTVKDCDPTTGETDDEGYEDEYVLE |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predicted end nucleotide location corresponding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|--|--|
| | | | | | , | FEKEETFTLSTIKTLEEAVGNIVKFLGM HPCERSDKVPDNKNTHTLLLAGVFRGGH DILVRSRLLLLDTVTMQVTARSLEELPV DIILASVG |
| 13489 | 27390 | A | 13635 | 118 | 629 | LWALQLHPEPELPSRRGTGAAGVWTGVA MIRFILIQNRAGKTRLAKWYMQFDDDEK QKLIEEVHAVVTVRDAKHTNFVEFRNFK IIYRRYAGLYFCICVDVNDNNLAYLEAI HNFVEVLNEYFHNVCELDLVFNFYKVYT VVDEMFLAGEIRETSQTKVLKQLLMLQS LE |
| 13490 | 27391 | A | 13636 | 57 | 221 | LHHCTPPWAEVEETLKRLQSQKGVQGII VVNTEGGWEPLGHCGDRSRPPAQGCP |
| 13491 | 27392 | A | 13639 | 344 | 544 | LSGGHAGALSSLWVHLYCLLSSQQLLGN VLVTVLAIHFGKEFTPEVQASWQKMVTG VCSALCFRYH |
| 13492 | 27393 | A | 13640 | 319 | 623 | DMEEASEGGGNDRVRNLQSEVEGVKNIM TQNVERILARGENLEHLRNKTEDLEATS EHFKTTSQKVARKFWWKNVKMIVLICVI VFIIILFIVLFATGAFS |
| 13493 | 27394 | A | 13641 | 2099 | 769 | TRLAGRVSVASRPCRGPAVGGLLVERSK ARRPLLESRVAMAAVPELLQQQEEDRSK LRSVSVDLNVDPSLQIDIPDALSERDKV KFTVHTKTTLPTFQSPEFSVTRQHEDFV WLHDTLIETTDYAGLIIPPAPTKPDFDG PREKMQKLGEGEGSMTKEEFAKMKQELE AEYLAVFKKTVSSHEVFLQRLSSHPVLS KDRNFHVFLEYDQDLSVRRKNTKEMFGG FFKSVVKSADEVLFTGVKEVDDFFEQEK NFLINYYNRIKDSCVKADKMTRSHKNVA DDYIHTAACLHSLALEEPTVIKKYLLKV AELFEKLRKVEGRVSSDEDLKLTELLRY YMLNIEAAKDLLYRRTKALIDYENSNKA LDKARLKSKDVKLAEAHQQECCQKFEQL SESAKEELINFKRKRVAAFRKNLIEMSE LEIKHARNNVSLLQSCIDLFKNN |
| 13494 | 27395 | A | 13642 | 210 | 772 | SVKMVRYSLDPENPTKSCKSRGSNLRVH FKNTRETAQAIKGMHIRKATKYLKDVTL QKQCVPFRRYNGGVGRCAQAKQWGWTQG RWPKKSAEFLLHMLKNAESNAELKGLDV DSLVIEHIQVNKAPKMRRRTYRAHGRIN PYMSSPCHIEMILTEKEQIVPKPEEEVA QKKKISQKKLKKQKLMARE |
| 13495 | 27396 | A | 13643 | 168 | 2172 | SPLCEVSVPSFCFRVFCKKHKKHKSDKH LYEEYVEKPLKLVLKVGGNEVTELSTGS SGHDSSLFEDKNDHDKHKDRKRKKRKKG EKQIPGEEKGRKRRRVKEDKKKRDRDRV ENEAEKDLQCHAPVRLDLPPEKPLTSSL AKQEEVEQTPLQEALNQLMRQLQRKDPS AFFSFPVTDFIAPGYSMIIKHPMDFSTM KEKIKNNDYQSIEELKDNFKLMCTNAMI YNKPETIYYKAAKKLLHSGMKILSQERI QSLKQSIDFMADLQKTRKQKDGTDTSQS GEDGGCWQREREDSGDAEAHAFKSPSKE NKKKDKDMLEDKFKSNNLEREQEQLDRI VKESGGKLTRRLVNSQCEFERRKPDGTT TLGLLHPVDPIVGEPGYCPVRLGMTTGR |

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|--|---|----------------|--|---|---|--|
| , | | : | | | | SLLDVLTKGGHSRTLQEMEMSLPEDEGH TRTLDTAKEMEQITEVEPPGRLDSSTQD RLIALKAVTNFGVPVEVFDSEEAEIFQK KLDETTRLLRELQEAQNERLSTRPPPNM ICLLGPSYREMHLAEQVTNNLKELAQQV TPGDIVSTYGVRKAMGISIPSPVMENNF VDLTEDTEEPKKTDVAECGPGGS |
| 13496 | 27397 | A | , | 1032 | 207 | PADVTPKPATEAVQSEHSDASPMSINEV ILSASGACKLIDSLHSYCFSSRQNKSQV CCLREQVEKKNGELKSLRQRVSRSDSQV RKLQEKLDELRRVSVPYPSSLLSPSREP PKMNPVVEPLSWMLGTWLSDPPGAGTYP TLQPFQYLEEVHISHVGQPMLNFSFNSF HPDTRKPMHRECGFIRLKPDTNKVAFVS AQNTGVVEVEEGEVNGQELCIASHSIAR ISFAKEPHVEQITRKFRLNSEGKLEQTV SMATTTQPMTQHLHVTYKKVTP |
| 13497 | 27398 | A | 13646 | 148 | 380 | RGSWREVPESASLPSRGAKGKWRGLCCC CCCCCCCCCCCYHCHQEQGDLKHQADL WRSGRTQNQAGIWQEHQTLEG |
| 13498 | 27399 | A | 13647 | 2099 | 769 | TRLAGRVSVASRPCRGPAVGGLLVERSK ARRPLLESRVAMAAVPELLQQQEEDRSK LRSVSVDLNVDPSLQIDIPDALSERDKV KFTVHTKTTLPTFQSPEFSVTRQHEDFV WLHDTLIETTDYAGLIIPPAPTKPDFDG PREKMQKLGEGEGSMTKEEFAKMKQELE AEYLAVFKKTVSSHEVFLQRLSSHPVLS KDRNFHVFLEYDQDLSVRRKNTKEMFGG FFKSVVKSADEVLFTGVKEVDDFFEQEK NFLINYYNRIKDSCVKADKMTRSHKNVA DDYIHTAACLHSLALEEPTVIKKYLLKV AELFEKLRKVEGRVSSDEDLKLTELLRY YMLNIEAAKDLLYRRTKALIDYENSNKA LDKARLKSKDVKLAEAHQQECCQKFEQL SESAKEELINFKRKRVAAFRKNLIEMSE LEIKHARNNVSLLQSCIDLFKNN |
| 13499 | 27400 | A | 13648 | 1 | 1206 | MSTSQSPCESICDYVTSHDKSNFTDMIK LNILRCEVILDYPAPGGGSLGAKHCCSC YTVSSGVTEGERNAGEKGVKLNADGARI RGTPGRGRRAEAEASSPAPAAVAAACVV AAAAASRQLASGNRTRVSSGVPAPAFLG TMNPNCARCGKIVYPTEKVNCLDKFWHK ACFHCETCKMTLNMKNYKGYEKKPYCNA HYPKQSFTMVADTPENLRLKQQSELQSQ VRYKEEFEKNKGKGFSVVADTPELQRIK KTQDQISNIKYHEEFEKSRMGPSGGEGM EPERRDSQDGSSYRRPLEQQQPHHIPTS APVYQQPQQQPVAQSYGGYKEPAAPVSI QRSAPGGGGKRYRAVYDYSAADEDEVSF QDGDTIVNVQQIDDGWMYGTVERTGDTG MLPANYVEAI |
| 13500 | 27401 | A | 13649 | 3 | 394 | GDGGGHLGSGRNGGGSMNAPPAFESFLL FEGEKITINKDTKVPNACLFTMNKEDHT LGNIIKSQLLKDPQVLFAGYKVPHPLEH KIIIRVQTTPDYSPQEAFTNAITDLISE |

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|--|---|----------------|--|--|---|---|
| 13501 | 27402 | A | 13650 | 1 | 471 | SRPTGLREAAGSGPREAPRRSGCKSPGL GTVGMLRPKALTQVLSQANTGGVQSTLL LNNEGSLLAYSGYGDTDARVTAAIASNI WAAYDRNGNQAFNEDNLKFILMDCMEGR VAITRVANLLLCMYAKETVGFGMLKAKA QALVQYLEEPLTQVAAS |
| 13502 | 27403 | A | 13651 | 1334 | 82 | CYTGGTQSLWPGSSCASSVARPSSLFRS AWSCEWSVRCARACTMSVPAFIDISEED QAAELRAYLKSKGAEISEENSEGGLHVD LAQIIEACDVCLKEDDKDVESVMNSVVS LLLILEPDKQEALIESLCEKLVKFREGE RPSLRLQLLSNLFHGMDKNTPVRYTVYC SLIKVAASCGAIQYIPTELDQVRKWISD WNLTTEKKHTLLRLLYEALVDCKKSDAA SKVMVELLGSYTEDNASQARVDAHRCIV RALKDPNAFLFDHLLTLKPVKFLEGELI HDLLTIFVSAKLASYVKFYQNNKDFIDS LGLLHEQNMAKMRLLTFMGMAVENKEIS FDTMQQELQIGADDVEAFVIDAVRTKMV YCKIDQTQRKVVVSHSTHRTFGKQQWQQ LYDTLNAWKQNLNKVKNSLLSLSDT |
| 13503 | 27404 | A | 13652 | 1 | 377 | TTASGRSGVKGSTMSAEVPEAASAEEQK EMEDKVTSPEKAEEAKLKARYPHLGQKP GGSDFLRKRLQKGQKYFDSGDYNMAKAK MKNKQLPTAAPDKTEVTGDHIPTPQDLP QRKPSLVASKLAG |
| 13504 | 27405 | A . | 13653 | 424 | 596 | SLKNIYGLSCRKKKKGAVKKIILVQAWW LMPVITVLWEAEVGGLLEARGLRPTRAT W |
| 13505 | 27406 | A | 13654 | 190 | 448 | LRSYPAPHLGSPELRIRKGRGHSHCLAG AAGPQRTALCGLSAPLCPPSPTPPGAGA PRYCSGSDAPPCLLRGAGPPIPGMGDPE TS |
| 13506 | 27407 | A | 13657 | 1612 | 563 | SMPGWRLLTQVGAQVLGRLGDGLGAALG PGNRTHIWLFVRGLHGKSGTWWDEHLSE ENVPFIKQLVSDEDKAQLASKLCPLKDE PWPIHPWEPGSFRVGLIALKLGMMPLWT KDGQKHVVTLLQVQDCHVLKYTSKENCN GKMATLSVGGKTVSRFRKATSILEFYRE LGLPPKQTVKIFNITDNAAIKPGTPLYA AHFRPGQYVDVTAKTIGKGFQGVMKRWG FKGQPATHGQTKTHRRPGAVATGDIGRV WPGTKMPGKMGNIYRTEYGLKVWRINTK HNIIYVNGSVPGHKNCLVKVKDSKLPAY KDLGKNLPFPTYFPDGDEEELPEDLYDE NVCQPGAPSITFA |
| 13507 | 27408 | A | 13658 | 128 | 2626 | NSHRWYYVRARRWRRRGKQREQPEDRGV PMKRAAMALHSPQYIFGDFSPDEFNQFF VTPRSSVELPPYSGTVLCGTQAVDKLPD GQEYQRIEFGVDEVIEPSDTLPRTPSYS ISSTLNPQAPEFILGCTASKITPDGITK EASYGSIDCQYPGSALALDGSSNVEAEV LENDGVSGGLGQRERKKKKRPPGYYSY LKDGGDDSISTEALVNGHANSAVPNSVS AEDAEFMGDMPPSVTPRTCNSPQNSTDS VSDIVPDSPFPGALGSDTRTAGQPEGGP GADFGQSCFPAEAGRDTLSRTAGAQPCV |

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|--|---|----------------|--|---|---|---|
| | | | | | | ELHTTESIDLDPTKPESASPPADGTGSA SGTLPVSQPKSWASLFHDSKPSSSSPVA YVETKYSPPAISPLVSEKQVEVKEGLVP VSEDPVAIKIABLLENVTLIHKPVSLQP RGLINKGNWCYINATLQALVACPPMYHL MKFIPLYSKVQRPCTSTPMIDSFVRLMN EFTMMPVPPKPRQALGDKIVRDIRPGAA FEPTYIYRLLTVNKSSLSEKGRQEDAEE YLGFILNGLHEEMLNLKKLLSPSNEKLT ISNGPKNHSVNEEEQEEQGEGSEDEWEQ VGPRNKTSVTRQADFVQTPITGIFGGHI RSVVYQQSSKESATLQPFFTLQLDIQSD KIRTVQDALESLVARESVQGYTTKTKQE VEISRRVTLEKLPPVLVLHLKRFVYEKT GGCQKLIKNIEYPVDLEISKELLSPGVK NKNFKCHRTYRLFAVVYHHGNSATGGHY TTDVFQIGLNGWLRIDDQTVKVINQYQV VKPTAERTAYLLYYRRVDLL |
| 13508 | 27409 | A | 13659 | 42 | 382 | TLWLKTIQIYLTISLGLGSDYGLAGFSA LGCHQAAVKMLTAFILIQGLDLGRSHFQ AHSGCWQDSFPCDSRIHGGLLLHVQQES PWFQSAERVSCITKCNHRSDTHHLCSIL L |
| 13509 | 27410 | A | 13660 | 178 | 349 | DMGPCYVAQTVLKLLGSSDPPTSASQEA GTTCHHAHLLSHPFLMIYRNFSFIQCLE T |
| 13510 | 27411 | A | 13661 | 268 | 2 | RQQKVILSSSGSLMSEMGRTVLPLKSPG MNPSSPLLASGGCWKSLACGHIIPFSSF ILMWPSPLCVSVSSSLPMRKPLLLHLRS TLFQ |
| 13511 | 27412 | A | 13662 | 112 | 483 | AGVGALRMVQRLTYRRRLSYNTASNKTR LSRTPGNRIVYLYTKKVGKAPKSACGVC PGRLRGVRAVRPKVLMRLSKTKKHVSRA YGGSMCAKCVRDRIKRAFLIEEQKIVVK VLKAQAQSQKAK |
| 13512 | 27413 | A | 13663 | 2 | 873 | SVEEFDRGCTGRGCGADARAGAAMVKIS FQPAVAGIKGDKADKASASAPAPASATE ILLTPAREEQPPQHRSKRGSSVGGVCYL SMGMVVLLMGLVFASVYIYRYFFLAQLA RDNFFRCGVLYEDSLSSQVRTQMELEED VKIYLDENYERINVPVPQFGGDPADII HDFQRGLTAYHDISLDKCYVIELNTTIV LPPRNFWELLMNVKRGTYLPQTYIIQEE MVVTEHVSDKEALGSFIYHLCNGKDTYR LRRATRRRINKRGAKNCNAIRHFENTF VVETLICGVV |
| 13513 | 27414 | A | 13664 | 118 | 3 | AWSLIPVIPVVREAKAGGLLEPRSLRPT WATWQDPVST |
| 13514 | 27415 | A | 13665 | 1 | 2876 | IRQRINFSRKNKWDSRKLDQAGVSELAT NQKLILVCGRYEGIDERVIQTEIDEEWS IGDYVLSGGELPAMTLIDSVSRFIPGVL GHEASATEDSFAEGLLDCPHYTRPEVLE GMEVPPVLLSGNHAEIRRWRLKQSLGRT WLRRPELLENLALTEEQARLLAEFKTEH AQQQHKHDGMAADEAGRTFLRADFNMIE EGDRIMVCLSGGKDSYTMLEILRNLQQS APINFSLVAVNLDQKQPGFPEHVLPEYL |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predicted end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion EKLGVEYKIVEENTYGIVKEKIPEGKTT CSLCSRLRRGILYRTATELGATKIALGH HRDDILQTLFLNMFYGGKMKGMPPKLMS DDGKHIVIRPLAYCREKDIQRFADAKAF PIIPCNLCGSQPNLQRQVIADMLRDWDK RYPGRIETMFSAMQNVVPSHLCDTNLFD FKGITHGSEVVNGGDLAFDREEIPLQPA CWQPEEDENQLDELRLNVVEPDGPRHRH APDARRFCQYLRHQARYLLSVVPNLDVA VTEPLANGDGLNVLIKREVVGFRANTVE KTGENQYRVWPNEMPADLHKIRPHHPLN RNLDHFFFLDLTNSTFSGGYVHVLKGVL SDDLLLKSFQKMGYVRDSHRLMVTALP PACQLVQVALGCFALRLECEILGEVLAQ LGTSVLPAEELLQARRASGDVASCQRLA QDEEPPPLPPRGSPAAYRAPLDLYRDLQ EDEGSEDASLYGEPSPGPDSPPAELAYR PPLWEQSAKLWGTGGRAWEPPAEELPQA SSPPYGALEEGLEPEPSAFSFLSLRREL SRPGDLATPESSAAASPRIRAEGVPAS AYRSVSEPPGYQGTQLPVPWRPAHPLLR HLSPAACCPLCSPARLPSRPLAACAAWR RPAALVATACTDGHSALQQPRGPALGQL GPRSRALGRQLPWCFSLLGRGLGLWLPC PWGSPGHSRGLESPGQPLLEVGLSVYGR LQGQQA |
|--|---|----------|--|--|---|---|
| 13515 | 27416 | A | 13667 | 76 | 289 | SGTPASPCLEMDPNCSCSPVGSCACAGS CKCKECKCTSCKKSCCSCCPVGCAKCAQ GCICKGTSDKCSCCA |
| 13516 | 27417 | A | 13669 | 2 | 667 | GRVDAEQSRLGATERAAAAAMNPEYDYL FKLLLIGDSGVGKSCLLLRFADDTYTES YISTIGVDFKIRTIELDGKTIKLQUMDT AGQERFRTITSSYYRGAHGIIVVYDVTD QESYANVKQWLQEIDRYASENVNKLLVG NKSDLTTKKVVDNTTAKEFADSLGIPFL ETSAKNATNVEQAFMTMAAEIKKRMGPG AASGGERPNLKIDSTPVKPAGGGCC |
| 13517 | 27418 | A | 13670 | 176 | 398 | RILKTQLQENNQPTTTTKNRQKTRTDTL PKGIYRRHISLWKLGTWLTPVIPALCEA NAGGRLESRSSRPVWATY |
| 13518 | 27419 | A | 13671 | 149 | 247 | RKGLALSPRLDCSGAITVNCSLNLQGLS NIPI |
| 13519 | 27420 | A | 13672 | 257 | 359 | VASLHGWAQWLTPVIPTLWKTKVGEFFE PRCSRP |
| 13520 | 27421 | A | 13673 | 142 | 1 | HLKGSGLAKHQWLMPVIPALWEAEVGGS LEPRSSRPVWATLQDPISS |
| 13521 | 27422 | A | 13674 | 619 | 168 | MFIESCCTPKIYTSFVLRQSHSFAQAGV QWLDLGSLQPLSLGSSNSPASASCIQVL FVIYTSVKLGVGGRLGNKKVMSSNKKFV CECRGWIILPFSVPSLRFQDGGWDHGVS SAEKALQAGRTAGHRVGVPPLGAPCGGA PCTTPPAWRS |
| 13522 | 27423 | A | 13675 | 3 | 370 | ARALLHPRLHQWQCLCHLQGTGGCPQQS PSSEGRADLLSPALEEGYPPPASGCFIP HFLCGCSIFNCLPPIMRHAHKSPDALLE TLGPCRAWRLMPVIPTLWEAKVDRLLES RSSRPSWPTW |
| 13523 | 27424 | A | 13676 | 3 | 281 | IGLRPELSVSLGRQRLTAIRLQPLLPAR |

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|--|---|----------------|--|--|---|--|
| | | | | | | TPCGFLRARVALALMADETDLPLLPRLE YSGMITAYCSLDFLGSSDPPTLGSGVAG TTENCCED |
| 13524 | 27425 | A | 13677 | 272 | 389 | YCRQIEKSKKKRCWLGTVAHACNPSTWG GRGGRITRSRD |
| 13525 | 27426 | A | 13678 | 261 | 363 | NSSWGHARWLTSVIPALWEAEVGGSPEV RSLRPV |
| 13526 | 27427 | A | 13679 | 149 | 44 | SCVMSVSVLKKMYWLGAVAHACNPSTLG GQGGRTA |
| 13527 | 27428 | С | 13680 | 118 | 267 | MSHCTWLMCVCVCVCGVYAYMYTYSF LRWDLPMLSRLECSGYSQAQ** |
| 13528 | 27429 | A | 13682 | 16 | 346 | NHHLTQPHPHLDINDFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF |
| 13529 | 27430 | A | 13683 | 244 | 140 | GRVDVFHHVAQAGLKLLSSGDLPAWPPK ELRLQV |
| 13530 | 27431 | A | 13684 | 191 | 777 | NSDEHVYRCLYGHKLSFLLSKYLKSGLA GVLLPLDAAVDMEKIEEQFANLHIVKCS LGTKEPTYLLGIDTSKTVQAGKENLVAV LCSNGSIRIYDKERLNVLREFSGYPGLL NGVRFANSCDSVYSACTDGTVKCWDARV AREKPVQLFKGYPSNIFISFDINCNDHI ICAGTEKVDDDALFGGFGDARMEFLQN |
| 13531 | 27432 | A | 13685 | 150 | 253 | VGWGLWLVPVIPAFWEAKMGESLDPRNL LPCWAT |
| 13532 | 27433 | A | 13686 | 500 | 321 | IEMGSHYVAQAGLELLSSSNPPTSVSQS AGIVGMSHHALAAISKSSDASITSHHPM TTP |
| 13533 | 27434 | A | 13687 | 6 | 424 | MSLLQCGGIRCFKMPEPAKSAPAPKKGS KKAVTKAQKKDGKKRKRSRKESYSVYVY KVLKQVHPDTGISSKAMGIMNSFVNDIF ERIAGEASRLAHYNKRSTITSREIQTAV RLLLPGELAKHAVSEGTKAVTKYTSSK |
| 13534 | 27435 | A | 13688 | 178 | 293 | TGYSSQAQWLMTVLTATWEAEAGGSLQP RSLRPAWATQ |
| 13535 | 27436 | A | 13689 | 663 | 144 | KELSAVSAGIPHSCGSQGCGGGSVAACV PAAPAAAGLCSGRAQKVPPPPSLAGWPP GVNAPPPPVCSSVRLHVCQSDRLWVRLA ARRGILALLRSALKAATLAGCQSVRWSV RPSESLRPTSNAASLFRSSVPTVLSHSV PLAASLGKRRACGGREHASVAVYLSVCL SLPT |
| 13536 | 27437 | A | 13690 | 125 | 3 | FAHQGHAPGQAWWLRPVIPVLREAELGG RPEPRSSRTARA |
| 13537 | 27438 | A | 13691 | 136 | 24 | GGPPFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF |
| 13538 | 27439 | A | 13692 | 144 | 1 | MLKIVQSGECLTLKFKNFCLLSLCTLFP TLIALTTLLLPISPFILIIL |
| 13539 | 27440 | A | 13693 | 1476 | 380 | NSWSTLASELTLWAATSADPERKSQAAS AAMWATLPLLCAGAWLLGVPVCGAAELC VNSLEKFHFKSWMSKHRKTYSTEEYHHR LQTFASNWRKINAHNNGNHTFKMALNQF SDMSFAEIKHKYLWSEPQNCSATKSNYL RGTGPYPPSVDWRKKGNFVSPVKNQGAC GSCWTFSTTGALESAIAIATGKMLSLAE QQLVDCAQDFNNHGCQGGLPSQAFEYIL |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|---|--|
| | | | | | ٠ | YNKGIMGEDTYPYQGKDGYCKFQPGKAI GFVKDVANITIYDEEAMVEAVALYNPVS FAFEVTQDFMMYRTGIYSSTSCHKTPDK VNHAVLAVGYGEKNGIPYWIVKNSWGPQ WGMNGYFLIERGKNMCGLAACASYPIPL V |
| 13540 | 27441 | A | 13694 | 87 | 2 | PGWAWWFTPVILALWETEAGGSPEFKSL |
| 13541 | 27442 | A | 13696 | 130 | 2 | CNILIIIIQVCWAWWLMPVIPALWHAEP GGSPEVESSRPALV |
| 13542 | 27443 | A | 13697 | 282 | 107 | GLTKCPGTVCRSLKVVISYQLSIICLSM MEHSGTILAHCSLKLLGSSDPPTSVSRV AS |
| 13543 | 27444 | A | 13698 | 198 | 3 | CSITVNKVKVMTLFRSSMSLEIVCDIDL AVLRRDLGSLQDPPPRFTPLSCLSLPSS WDYRRPLV |
| 13544 | 27445 | A | 13699 | 2 | 120 | ARGDGVSLWLPRLKCNGAISAHCNLRPT GSSDKNFKTRF |
| 13545 | 27446 | A | 13700 | 60 | 341 | PDMGLEDERKMLTESGDPEEEEEQEEL VDPLTTVREQCEQLQKCVKARERLELCD ERVSSRSHTDDDCPEELFDFLHAKDHCV ALKLFNNLQ |
| 13546 | 27447 | A | 13701 | 6 | 540 | KNSRTLGQCGGIRGSLCRPRKPGVGGTQ TRAVRPAVCSADSARPHLPLRRADMKDS LVLLGRVPAHPDSRCWFLAWNPAGTLLA SCGGDRRIRIWGTEGDSWICKSVLSEGH QRTVRKVAWSPCGNYLASASFDATTCIW KKLTLRIYNILRKLEACIKPLCCALKYG CLEEKQLHS |
| 13547 | 27448 | A | 13702 | 239 | 346 | AKRGWLMPVIPALWEAKVGKSLEPRISR PLWATWQN |
| 13548 | 27449 | A | 13703 | 210 | 300 | LMPVISALWEAKARGLLEPRTLRPAWAT W |
| 13549 | 27450 | A | 13704 | 141 | 440 | PSAFEHFEKINLYFLKFCISQGFPERQN NRDREIHRERYERDRERHRERYERGLRE LAHVIVEAEKPHHRPFITWETLGCWWSG SVQVQKPWEPGKLMV |
| 13550 | 27451 | A | 13705 | 204 | 438 | LLNVLLTQLFFLFLSLRQSCSVAQARGQ WYNHGSLQPSTHGASNPPTSASQSVGTT GMSHDHGLFLHFSTLD1FSSL |
| 13551 | 27452 | A | 13706 | 1707 | 1821 | AKAGGSQHLEILANAVKPCLYWECKMAG PWWCAPVGG |
| 13552 | 27453 | A | 13707 | 167 | 334 | IRRANFKILTEIGWTQWLTPVIPALWEA EGGGLLEPGSPSLVFLFFILTTILMRKK |
| 13553 | 27454 | A | 13708 | 224 | 344 | KDTAMEEEIKDTEKTGKPWLGAVAHACN PSTLGDQGRQIA |
| 13554 | 27455 | A | 13709 | 1476 | 380 | NSWSTLASELTLWAATSADPERKSQAAS AAMWATLPLLCAGAWLLGVPVCGAAELC VNSLEKFHFKSWMSKHRKTYSTEEYHHR LQTFASNWRKINAHNNGNHTFKMALNQF SDMSFAEIKHKYLWSEPQNCSATKSNYL RGTGPYPPSVDWRKKGNFVSPVKNQGAC GSCWTFSTTGALESAIAIATGKMLSLAE QQLVDCAQDFNNHGCQGGLPSQAFEYIL YNKGIMGEDTYPYQGKDGYCKFQPGKAI GFVKDVANITIYDEEAMVEAVALYNPVS FAFEVTQDFMMYRTGIYSSTSCHKTPDK VNHAVLAVGYGEKNGIPYWIVKNSWGPQ WGMNGYFLIERGKNMCGLAACASYPIPL |

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|--|---|----------------|--|---|---|---|
| 13555 | 27456 | A | 13710 | 763 | 257 | YEKILKLTADAKFESGDVKATVAVLSFI LSSAAKHSVDGESLSSELQQLGLPKEHA ASLCRCYEEKQSPLQKHLRVCSLRMNRL AGVGWRVDYTLSSSLLQIRGKSPWCHCG WKVATCPQGPQAPACLPCPFSSKTKFPR SSLARTESRPKTLMKLPWAEEKGVPRPV |
| 13556 | 27457 | A | 13711 | 133 | 401 | VLSKSGNPYWGLSTNHEIKGQEGCAWQL TPVIPALWEAEAGGSLEPRSLRPAWATS WLPREIKLDLLKNGCGPSKITQGGPMVA GSLKL |
| 13557 | 27458 | A | 13712 | 212 | 74 | RRINLAPPRVFLKGPPFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF |
| 13558 | 27459 | A | 13713 | 324 | 141 | DRVLPRLECSGVITARYRLNLLGSRDPP TSASLIAGSTGTCHHAWLSFSYLFTYVF FIIL |
| 13559 | 27460 | A | 13714 | 299 | 431 | IRLIWLSAVDHACNSSTLGGHGVQMTKG QDFETNLANTANPHPY |
| 13560 | 27461 | A | 13715 | 133 | 1 | ILVWAWWDMPAIPVLWEAETEGLLEPRS LRPAWATWKNTISTKN |
| 13561 | 27462 | A | 13716 | 18 | 165 | IPLHTHTHTHTHTHTHGYLLALSGTEFL SVLYMASERECRTYNLMLNK |
| 13562 | 27463 | A | 13717 | 119 | 1 | KPNVSQAQWLAPVIPALWEARVGVLFKP RSLRPTWATQQ |
| 13563 | 27464 | A | 13718 | 271 | 64 | VLRSISTLNEILAKTRNPPLQILMKPRK RWGTVAHLRAPVGDQPDQHSETPSLLKI TKISWVWWRTPVI |
| 13564 | 27465 | A | 13719 | 21 | 209 | KDGPKGTGGSETNESVEMTECCSVTQAG VQWHDLGSLQPPPPGFKRFSCLGLPSSW DYSRND |
| 13565 | 27466 | A | 13720 | 391 | 151 | RGFFLKGEKKKNFFPIILGKKILGSPGK KGEKKKKKRGKIFFFLKNPLGFFPKKKV LGEKKNPYSGVWGGKKKRGPPPHP |
| 13566 | 27467 | A | 13721 | 109 | 2 | RRLGVVAHACNPSTLGGEVGGSQGPGNC GQVTKVS |
| 13567 | 27468 | A | 13722 | 69 | 369 | RDILQADGAHSLFPTTPSLNAYIIFSSP IGPHTHRPYHATPTYLPFYTNNLIKKKK KKKKKKKKKKKKKKKKKKKKKGGGPF KKTPGGAPIFGGGGK |
| 13568 | 27469 | A | 13723 | 58 | 1208 | FWNENSPASELAPNGGGSVTSVPRLEDY LTRPQLYKLTGVEGPSRANSRDSFHDRK TYKTPSANMMVLKVEELVTGKKNGNGEA GEFLPEDFRDGEYEAAVTLEKQEDLKTL LAHPVTLGEQQWKSEKQREAELKKKKLE QRSKLEDLEIIIQLKKRKKYRKTKV PVVKEPEPEIITEPVDVPTFLKAALENK LPVVEKFLSDKNNPDVCDEYKRTALHRA CLEGHLAIVEKLMEAGAQIEFRDMLEST AIHWASRGGNLDVLKLLLNKGAKISARD KLLSTALHVAVRTGHYECAEHLIACEAD LNAKDREGDTPLHDAVRLNRYKMIRLLI MYGADLNIKNCAGKTPMDLVLHWQNGTK AIFDSLRENSYKTSRIATF |
| 13569 | 27470 | A | 13724 | 400 | 135 | KWNGKELNGVDGIGWDWNEMYWKGLEFH ETEWNELERNGLEWNGMSWDGIKCNGIK WNGIECSGMLWNGMECIGMECPLMEWIR VEWN |
| 13570 | 27471 | A | 13726 | 186 | 344 | SASLGLWRCRDCRRSLVHSVLNVAQAGV |

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|--|---|----------------|--|---|---|--|
| 13571 | 27472 | A | 13727 | 380 | 168 | QWRDLSSLQPPPPSRLPWPPKVLR APPQKKVFSSKFPQGFFFAPPNRKKLFF SPPRKIVPPPKFFLWAPPLFFFFFFFF FFFFFWYSRTDYK |
| 13572 | 27473 | A | 13728 | 324 | 219 | RIMFFIFFYFFFFFFFFVFFLFFFFFKR PPPFFY |
| 13573 | 27474 | A | 13729 | 2 | 270 | RLQEASLSPVPEILGGALPSAKRTSYLL LSTLCLLLSETASRGNSLTGLGHRSDHY NSVRSGGQSLYSACPIVTTIHGTCYGGK AKCCK |
| 13574 | 27475 | A | 13730 | 134 | 3 | AVHRCKKWGRGWGRWLTPVIPTLWEAEV GGPLEPRSLRPALAT |
| 13575 | 27476 | A | 13731 | 429 | 641 | RKKAVCFMNDLICFLDNTFKNNVLSQAW WCVHLVPTIWEAEAGGSLEPRSLKLQCP VVAPVNNCTPAWAT |
| 13576 | 27477 | A | 13732 | 188 | 32 | IFFFFLFFYFLFFFFFFFPRSRHCTLQP GQQSETRSQNKKQKTKNKQTKNLP |
| 13577 | 27478 | A | 13733 | 341 | 3 | GTVTPEEPKKMGDQTPRGLPRPERTLGR LSTSESRVDPTPRVGGGSSGGRTAPWGP PRERGRVAGSSLHRACNFSTSNTIISVG LWLTPVIPTLGEAEAGGSPEVRSSTHAS |
| 13578 | 27479 | A | 13734 | 208 | 2 | KLYKNFFFRFTKNPPPLLKKGFYLYNFF FKKKKKIVKKKKKKKKKKKKKKKKK GRPLAIKNYPRV |
| 13579 | 27480 | A | 13735 | 16 | 212 | EGVSLLLPRLECRGTISAHCNLRHRGRR CTPASASQILRRLKQENHLNLGGGGYRD PIKLQRTAS |
| 13580 | 27481 | A | 13736 | 22 | 214 | PDRPALPTRPGGWITWGREVRDQPGQCG ETPSLLKIEKLAGCDGTCLEQNCLQNNN SNNKVGIR |
| 13581 | 27482 | A | 13737 | 386 | 51 | WGNSITQQALFEHLCFSGHTSLPAVPCP HQACFPTLPLICRGIIIAHCNLGLLGSS DSPISASPIDGNTGLHPHARLFSFLLWY RWGLTMMPKRSLSPGLKPSSRLADAWV |
| 13582 | 27483 | A | 13738 | 204 | 431 | SQHFGISRRADHLSSNVGDQPEQHGKNS LYKYKKINQGWAWWLTPVIPPLWEGQVG GSPEGKELKTPLRNLGKPHL |
| 13583 | 27484 | A | 13739 | 69 | 159 | IKKEALSWAWWLTPVIPALWKANAGGSP E |
| 13584 | 27485 | A | 13740 | 32 | 285 | FFLSFFLFFFFFFGGGGKKKTKKFFSQD FLGPPKILGGGGFFSFFFGGPFFLKKGK KSPQNLFFLKKNPPPFFFPPPKKPLWGF |
| 13585 | 27486 | A | 13741 | 372 | 213 | YRSCVLLQQNPPLFYQSWWNFSLCVCVC VCVCVCCTGSLKKFLLTQKKKR |
| 13586 | 27487 | A | 13742 | 29 | 237 | 'TKRKGYKTNKGYWAWAWWLTPVIPALFI AEGNLILQMQKQAQPEAGCGCVCVCVCA CMCVCVCVFKVFF |
| 13587 | 27488 | A | 13743 | 322 | 183 | HTHTHTHTHTHTHTHTNPIHVFWLLLKY PKIQSHQFHISAFQDPLL |
| 13588 | 27489 | A | 13744 | 305 | 373 | VGWGWWLTPVIPALWEAKVGGS |
| 13589 | 27490 | A | 13745 | 172 | 1 | KNKIEEQMKWEMRQEAVAHSCNPSTLGG QGEFETSLVNMMKPCLYKKMQKISQVCS C |
| 13590 | 27491 | A | 13746 | 285 | 1045 | FQHPFGLSQSEMAAVKASTSKATRPWYS HPVYARYWQHYHQAMAWMQSHHNAYRKA VESCFNLPWYLPSALLPQSSYDNEAAYP QSFYDHHVAWQDYPCSSSHFRRSGQHPR YSSRIQASTKEDQALSKEEEMETESDAE |

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|--|---|----------------|--|---|---|---|
| | | | | | | RRQQQLDAERLDSYVNADHDLYCNTRRS VEAPTERPGERRQAEMKRLYGDSAAKIQ AMEAAVQLSFDKHCDRKQPKYWPVIPLK F |
| 13591 | 27492 | A | 13747 | 2 | 305 | GRVGSFSVRDVELSDPARERGEMPVAVG PYGQSQPSCFDRVKMGFVMGCAVGMAAG ALFGTFSCLRIGMRGRELMGGIGKTMMQ SGGTFGTFMAIGMGIRC |
| 13592 | 27493 | A | 13748 | 2 | 305 | GRVGSFSVRDVELSDPARERGEMPVAVG PYGQSQPSCFDRVKMGFVMGCAVGMAAG ALFGTFSCLRIGMRGRELMGGIGKTMMQ SGGTFGTFMAIGMGIRC |
| 13593 | 27494 | A | 13750 | 238 | 423 | AVSWDQLTWGTGVQEKKIQAQAWGLMPV IPTLWEGEVGGSPEVKSSRPACPHGKTP FLLKMQ |
| 13594 | 27495 | A | 13751 | 455 | 248 | ISVGPGIFQLNFCFLEPYGTFLSEKKFF IMETGSRFVIQAGVQWGSYSSPQPQFFG FESSLKPPHSGVK |
| 13595 | 27496 | A | 13752 | 2 | 98 | IPTPTIHTHTHSHTHTHTHTHTSFLYMP PDLK |
| 13596 | 27497 | A | 13753 | 196 | 2 | IWAPPKIFLKKPPLFFFFFFFFFFFFFFFFFFFFFFFFFFFFF |
| 13597 | 27498 | A | 13754 | 917 | 379 | KYKKCSLQKNLLLVGCKKYSLCYRRHKL HLVTHGERKKPAAVNSFFLFFSFFFLN LVRNTEITKKRVNLHETKADAESCNQDC TTSSETASELEQIRSGKHNSGKWAGEGA AGGRREGERMEWTEMRRGARGRRGGRER EMERARVRGGEEREKEIDLYKKVTSKIE ETKLGNLLKLG |
| 13598 | 27499 | A | 13755 | 175 | 21 | KKKNFFFPPRVILGPPKVFFKRAPLFFF FFFFFFFFFFFFLKKSWRPLAI |
| 13599 | 27500 | A | 13757 | 234 | 341 | EIGWVQWLMPVIPAVWEAEVGGLLEPRS LRAARAI |
| 13600 | 27501 | A | 13758 | 1 | 365 | PAPNRRGGHIQDRATNSTELGANQCFFF SPRPPSLEKKTPEINKEPRPAPQPSNPG NLGTREGGDSWAGTTRCLRRTDEGDTYR TEPPTALSWGQTRAFFFPPALPAGKKRH RNLLKTQFF |
| 13601 | 27502 | A | 13759 | 87 | 181 | SHTHTHTHTHTHTFYLHVVIHFDMEI LGL |
| 13602 | 27503 | A | 13760 | 1 | 228 | ARGERERERERERERERERERERERERERERERERERERYREGGRLLLTMGEGETERATDLYHTPP PSIKAWRLCEPRPRAGILCGRNIF |
| 13603 | 27504 | A | 13761 | 383 | 197 | RCDPPAWVSQSARITGVSYRAQPATSVL MGEEDFLEDPVIAFVRLAPAVLLSKLSE VSVAMT |
| 13604 | 27505 | A | 13762 | 276 | 57 | YAVLGGGGGRKNLFVFVFFLFFFFFFF FKKQGFGLMPLGEDRGPNMGFFYFPMVG DKTKLPFKKKKKKRPR |
| 13605 | 27506 | A | 13763 | 377 | 209 | PRPAYGPAFLFTEGFSWNPFFFFQMESR SVAQAGVQWCYLGSLQPPPPWFPGTLLN |
| 13606 | 27507 | A | 13764 | 160 | 202 | MEKYNVHPHSGILHSHEKEQAALFTIAK RWRQPSYPSIDEWKNIMSIHTVEYYTAM KRNKQLYSQ |
| 13607 | 27508 | A | 13765 | 390 | 284 | ESGGHFLSLSIYIYIHIYIYVCVYIY THTSHTI |

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|--|---|----------------|--|--|---|--|
| 13608 | 27509 | A | 13766 | 350 | 41 | YVVILQENRNTQNRKLLPKSTELCMLLQ MLLFILNTTNYPLPLWQCYHRFCSFFLK TGSFYVTQAKVRWLFTGMITVHCSLKLL DSSHPPKWLVLQELATVAS |
| 13609 | 27510 | A | 13767 | 330 | 156 | KTTQAWWCVHVVPDNREAEVTGVIRLGR MRLPLEGACTNCVPSWEKEQDPVSHNEK K |
| 13610 | 27511 | A | 13768 | 25 | 292 | KCFFLSWRGGSRLQSQHFGRPRRADHLR PGVPDQPGQHGFLLVKMSDKPDLSEVEK FDRSKLKKTNTEEKNTLPSKEIFFSLVG VNIQD |
| 13611 | 27512 | A | 13769 | 585 | 680 | KCLGSRTRWLTPVIPTLWEAEAGGSLRP RSS |
| 13612 | 27513 | A | 13770 | 488 | 359 | PSPRERKFLPFFKKKKGWGPPPPPKKNR GRGPQQKEGPQKPKP |
| 13613 | 27514 | A | 13771 | 794 | 515 | PDMGLEDEQKMLTESGDPEEEEEEEEL VDPLTTVREQCEQLEKCVKARERLELCD ERVSSRSHTEEDCTEELFDFLHARDHCV AHKLFNNLK |
| 13614 | 27515 | A | 13772 | 130 | 397 | VVGLTPLCFCMRASLPRHSKPQARKTKK KKKKKKKKKKKKKGGSLKKKIFGGAKKS GATKKKNFPKKRGQNKKNPGFFKNEIFF GGGAI |
| 13615 | 27516 | A | 13773 | 376 | 145 | TRVGGGCSEQRLCHCTPSWATEPNPVSN NNKIPLELFPSNQTFFHFVRNWKKRGNN WLSNYSISSTVTRHFPTLFQF |
| 13616 | 27517 | A | 13774 | 1 | 247 | GLQSLADLLSGLLQKVCLPLSNGIMDLY LLYYLFTFETGSCSVAQARVQWCEHGSL QPHTSASSDPPTSATTTCHHARLIIW |
| 13617 | 27518 | A | 13775 | 376 | 145 | TRVGGGCSEQRLCHCTPSWATEPNPVSN NNKIPLELFPSNQTFFHFVRNWKKRGNN WLSNYSISSTVTRHFPTLFQF |
| 13618 | 27519 | A | 13776 | 107 | 468 | EKARSPERARDQEGGTERDRNSEREKIL PKLREELPWVSGGWRCPWPHQGWSHWED NPGWGIPTGPSVGWGEKKGPGEGRSHKY GTGRTKCELGVSIGNSAFTFLLHFYFKH RKRERKQI |
| 13619 | 27520 | A | 13777 | 125 | 2 | NIFFPLFELYYFKCHWARWLTPVIPALW EAKEGGSPEVRSS |
| 13620 | 27521 | A | 13778 | 166 | 74 | GRICYSHSLSKHTHTHTHTHTHTSHISF IP |
| 13621 | 27522 | A | 13779 | 1 | 341 | ARGERERERERERERERERERERERERERERERERERERE |
| 13622 | 27523 | A | 13780 | 614 | 337 | RRCSSALCYRRHGNHKVKIRSKQGASVS PHEHLRILSLLEVRNVGLGHSIFPHSLR MYVCMYVCMYVCISIYLSIYLSIYLSIY LSISISSR |
| 13623 | 27524 | A | 13781 | 390 | 158 | VLIRLSWGRICFQAHSGCWQNSGSCSHK TEGLCLLLAGSCSWLLGGALKGWASKEE FYTMQHSCQSDTLSPLPYSIH |
| 13624 | 27525 | A | 13782 | 308 | 163 | TKFYLLFFFFFFFLFIFFFFFFKKKKF LFFIQGGGKIKTPGTLTFLG |
| 13625 | 27526 | Α | 13783 | 45 | 277 | IASGRPFFFFLHLPPFQKAFVFGGGGGT PFEYQNFVAYIKGKQGNPFLFGCGDLFN |

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|--|---|----------------|--|--|---|--|
| | | | 12-01 | | | APQLIKQLSQLGQKYPKKPLL |
| 13626 | 27527 | A | 13784 | 413 | 218 | PNFPPFLFFSGKFFFFAQNLPFGFFPPP GEGKAFPGQGCPVGGGGFAGPTFFFGPP AFPEILYFF |
| 13627 | 27528 | A | 13785 | 1011 | 1368 | IDWENDLTPMVLCHGPSIYNKYSFSQNI FPISANFFFIAHINLTLLQLVSELSHKI ILRHFYIKPIKDILNLYLILPGVWLFDL CKSTAICRYLCVCIYIHLYIHTHTHIHI YTHIRL |
| 13628 | 27529 | A | 13786 | 161 | 425 | RWGSCYCPGYPHLKIFKLLLLLVLVLEM GVLPLLPRLECSGMITVHCNLEFLGTSY PPISVSQTKKKKRPFTLPPLPNLQIGLP LRGE |
| 13629 | 27530 | A | 13787 | 70 | 311 | DLISITALVISPNKFYIYLSIYLSIYLS IYLSIIYLIFISTNLLWVLSLWETLNKT RLLNLFLTIQNNIWNPKLLVSALI |
| 13630 | 27531 | A | 13788 | 25 | 219 | RNMAAATLTSKLYSLLFRRTSTFALTII VGVMFFERAFDQGADAIYDHVNEGKLWK HIKHKYENK |
| 13631 | 27532 | A | 13789 | 279 | 138 | RRSLALSPRWDCGLQWRNLGSLQALLPG FTPFSCLSLPSSWDYRPF |
| 13632 | 27533 | A | 13790 | 138 | 28 | GGWVRWLTPVIPALWEARVGGLLEPGSS KKERGKKEV |
| 13633 | 27534 | A . | 13791 | 133 | 7 | YSCQRCLTHGQAQWLTTVISAPWEAKAG RLLEPRSVRSAWAT |
| 13634 | 27535 | A | 13792 | 86 | 290 | EHVHRTLIEASVSGWGWWLTPVISAAWE AEVGGSLEGQEFEISLGKCSETPSLTTT TTESLGSFAATS |
| 13635 | 27536 | A | 13793 | 150 | 37 | KIIYPSQARWLMPVIPALCEAEVGRLLE PSSSRLAWAV |
| 13636 | 27537 | A | 13794 | 216 | 77 | PTQHPTEGYMIKQQTVYHECRMWANSHL CLLPEGLLRAVTPWCHAP |
| 13637 | 27538 | A | 13795 | 251 | 347 | VARAWGLAPVIPALWEAEVGGSPEGRSL KPAL |
| 13638 | 27539 | A | 13797 | 177 | 274 | VQWHMSVVPAIQEAEVGGSPEPRSLRPA WATY |
| 13639 | 27540 | A | 13798 | 307 | 406 | KFKKGWAWWLMPVIPALWEAKAGGSPES RSLRP |
| 13640 | 27541 | A | 13799 | 194 | 3 | FFFFFFFFFEMGSHYIVQARVQWLFTDA NIVHCSLQLLASSDPPVSTSQVGLQACA DDAQNPE |
| 13641 | 27542 | A | 13800 | 333 | 198 | LPSVFFFFFQTESCSVTQAGVEWCDLGS LHSSLGNRARLCLKIK |
| 13642 | 27543 | A | 13801 | T. I. | 335 | ETERGRERETERGRERETERGRERETER GRERERERERERERERDREEGRERQRGE GKKNRDREENRRRETERVGDVVCVCPHP NLILNCSPYISHVLREGLGKTYLNYGGS FPTLCSG |
| 13643 | 27544 | A | 13803 | 14 | 454 | RVFFDRSRYRSRTLGSTHASALLGILVY RSHLISSLLCLEGIILSLFIIATLITLN THSLLANIVPIAILVFAACEAAVGLALL VSKKKKKGAPVLKNPWGAQSLRGQARKY FFFYREPNKNLPGNLGKEPFLGGGDILG QPFYKN |
| 13644 | 27545 | A | 13804 | 1474 | 1661 | TDFHNSHLLKCCKNCIFSTLNYYIRREH FSIVFIFCYICVVKVHYIRRELFRCLYF LLYMCC |
| 13645 | 27546 | A | 13805 | 360 | 3 | LWGKRGGPFSPPPFFFLELFFFLKKMG |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion GGGFFGGFPWGPPKGEIFFFVFFWAPQK KKKKKPPPFIFWGGGPFFFFFFPPPKQK KKKKKKKKKKKKKKKKKKKKKKKKKK |
|--|---|----------------|--|---|---|--|
| 13646 | 27547 | A | 13806 | 1 | 425 | RLGGVALRSAADGAFVSGEFCGGKLLRW CLVTDFPPDSCTTCSYSRRSTPGCSPGG SRGLSEGEGSSVSLQRSRVLSAMKHVLN LYLLGVVLTLLSIFVRVMESLEGLLESP SPGTSWTTRSQLANTEPTKGLPDHPSRS M |
| 13647 | 27548 | A | 13807 | 5 | 313 | EKPYLQGITFTSKTTHLIYEFTPYTIIV KEYSTNYVLLIGNTQITKIYHIVFRKFS MTPIYKFQDLAQWLTPVIPTLWEAKPGG LLEPRSLQSSYSLIILIL |
| 13648 | 27549 | A | 13808 | 182 | 314 | VITQLDKTERAQWLMPVILVLYEAEVGG LLEAMSSRPAWATKTW |
| 13649 | 27550 | A | 13809 | 219 | 1812 | LPPPESGAMSGFNFGGTGAPTGGFTFGT AKTATTTPATGFSFSTSGTGGFNFGAPF QPATSTPSTGLFSLATQTPATQTTGFTF GTATLASGGTGFFLGIGASKLNLSNTAA TPAMANPSGFGLGSSNLTNAISSTVTSS QGTAPTGFVFGPSTTSVAPATTSGGFSF TGGSTAQPSGFNIGSAGNSAQPTAPATL PLTPATPAATTAGATQPAAPTPTATITS TGPSLFASIATAPTSSATTGLSLCTPVT TAGAPTAGTQGFSLKAPGAASGTSTTTS TAATATATTTTSSSTTGFALNLKPLAPA GIPSNTAAAVTAPPGPGAAAGAAASSAM TYAQLESLINKWSLELEDQERHFLQQAT QVNAWDRTLIENGEKITSLHREVEKVKL DQKRLDQELDFILSQQKELEDLLSPLEE LVKEQSGTIYLQHADEEREKTYKLAENI DAQLKRMAQDLKDIIEHLNTSGAPADTS DPLQQICKILNAHMDSLQWIDQNSALLQ RKVEEVTKVCEGRRKEQERSFRITFD |
| 13650 | 27551 | A | 13810 | 134 | 263 | KNSLFKKKNNGRPWPLMPVIPALWEAEA GGLLEPRGLRPTWVT |
| 13651 | 27552 | A | 13811 | 210 | 51 | TLSHRKPISFEAYFARVRGFILEVSETR NPPIGWTRWLTPVIPALWEAEAGG LHEAGLAPMIPALWEVKVGGLLEPRSPR |
| 13653 | 27553 | A | 13812 | 539 | 139 256 | PAWASW RTTQMSTAAGFTEAPNWKQPRCPWTEEQ TNKMWSLHAMECASAMKWNEVLIQPAVR MARENSRRKPGDMHDIWSVWSAGEWLPG LGRSTGKGSD |
| 13654 | 27555 | A | 13815 | 63 | 369 | VRETPLKTHYLEEISSPASPTAIPQSLL FSFFISPPSSLATGSGHSGHPVHSLHHP PETEPSPSVCLWAGPKVPPGAAGKGSPD SNPLVIRSLLAPPPASL |
| 13655 | 27556 | A | 13817 | 258. | 3 | AESAPPFSTNSLFFTHTHTHTHTHTH THSLRTTRWAPSQVCRPQTSQRGGECVG PTAFAPSPTLLKPHHPSSHVHLPSQPRR |
| 13656 | 27557 | A | 13818 | 516 | 665 | WFKSGSFWLGMVAHTCNPSTLGGQGGWI TSGRSRTSVTTTTTSQTCAPA |
| 13657 | 27558 | A | 13819 | 295 | 361 | WLTPVIPALLEAVTGGSLEPRS |
| 13658 | 27559 | A | 13820 | 166 | 368 | GWWATQHSAQYVVSSSSIGALCLGESCS VTQAGVQWCDLSSPQPSHPGFKRFLCLS LPSSWDHRGDL |

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|--|---|----------------|--|---|---|---|
| 13659 | 27560 | A | 13821 | 133 | 530 | RKYCGQCLNMALNNVSLSSGDQRSRVAY RSSHGDLRPRASALAMVSGDGFLVSRPE AIHLGPRQAVRPSVRAESRRVDGGGRSP REPDGRGRSRQARFSPYPIPAVEPDLLR SVLQQRLIALGGVIAARISV |
| | 27561 | A | 13822 | 76 | 1958 | RQELIWPLCSPPQGDRFLQKSWIFFRPV MADKLTRIAIVNHDKCKPKKCRQECKKS CPVVRMGKLCIEVTPQSKIAWISETLCI GCGICIKKCPFGALSIVNLPSNLEKETT HRYCANAFKLHRLPIPRPGEVLGLVGTN GIGKSTALKILAGKQKPNLGKYDDPPDW QEILTYFRGSELQNYFTKILEDDLKAII KPQYVDQIPKAAKGTVGSILDRKDETKT QAIVCQQLDLTHLKERNVEDLSGGELQR FACAVVCIQKADIFMFDEPSSYLDVKQR LKAAITIRSLINPDRYIIVVEHDLSVLD YLSDFICCLYGVPSAYGVVTMPFSVREG INIFLDGYVPTENLRFRDASLVFKVAET ANEEEVKKMCMYKYPGMKKKMGEFELAI VAGEFTDSEIMVMLGENGTGKTTFIRML AGRLKPDEGGEVPVLNVSYKPQKISPKS TGSVRQLLHEKIRDAYTHPQFVTDVMKP LQIENIIDQEVQTLSGGELQRVALALCL GKPADVYLIDEPSAYLDSEQRLMAARVV KRFILHAKKTAFVVEHDFIMATYLADRV IVFDGVPSKNTVANSPQTLLAGMNKFLS QLEITFRRDPNNYRPRINKLNSIKDVEQ KKSGNYFFLDD |
| 13661 | 27562 | A | 13823 | 3 | 292 | KCWDYVHEPPRPAPMQTYQVDLRCCFVS TINLLVCGERASLPSVESLVFSGLAEVW MKAVLAPSRESGKLVLQQVPEYAEAIWG ARPACRGLVFSA |
| 13662 | 27563 | A | 13824 | 245 | 91 | YKVNFGPPRGSFFRPPPFFFFEVFHFFF IIFFFFFFFFFFFSFFLGCFMYV |
| 13663 | 27564 | A | 13825 | 276 | 100 | PGQKKKTLSPKKKKSIYLYIHTHIYIYT HTHYIYKYIFVCVYICVSIYIHTHIVPR IFS |
| 13664 | 27565 | A | 13826 | 202 | 375 | IYNTYIHTHTHTHTHTHTHVYLYIQSGDC IYAVLLGELSFIYIFVFLSSLISILFHL TY |
| 13665 | 27566 | A | 13827 | 278 | 34 | KPRGLSPAGVSAQRAWGPHSCPRLPDPR TELQVRQIPALVGSSAFQGRRGRKGPVG GSGPSRPRAPPQPRPGCCQCTLLQI |
| 13666 | 27567 | A | 13828 | 62 | 307 | GGARAIFLNVPHLKRPMFFLELCLSTKC PVGTEFALDSLLRLYNSNTFCWVQWLMP TIPALCKAEMGGLLEARSLIPAWAT |
| 13667 | 27568 | A | 13829 | 386 | 478 | NRIGMVSHACNPSTLGGQGRRIMRSGDQ DHS |
| 13668 | 27569 | A | 13830 | 364 | 484 | NFNIWLGWAWWLMPVIPALWEAKAGGSL EVRGSGPAANMV |
| 13669 | 27570 | A | 13831 | 33 | 486 | PARSAEFGTRRERERERERERERERERERERERERERERERERERER |
| 13670 | 27571 | A | 13832 | 6 | 718 | YSAVEFAMAGVGAGPLRAMGRQALLLLA LCATGAQGLYFHIGETEKRCFIEEIPDE |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion TMVIGNYRTQMWDKQKEVFLPSTPGLGM |
|--|---|------------------|--|---|---|--|
| | | A | 12000 | 10 | 120 | HVEVKDPDGKMLQVVLSRQYGSEGRFTF TSHTPGDHQICLHSNSTRMALFAGGKLR VHLDIQVGEHANNYPEIAAKDKLTELQL RARQLLDQVEQIQKEQDYQRYREERFRL TSESTNQRVLWWSIAQTVILILTGIWQM RHLKSFFEAKKLV RLOEFGTRRERERERERERERERE |
| 13671 | 27572 | A | 13833 | 17 | 130 | RDTHSFLHG |
| 13672 | 27573 | Α . | 13834 | 283 | 460 | LVVRLAICKNYSLKRETEPGSVAHVYNP STLGGQGGRTARGQEFKTSLDNIARPPS LQK |
| 13673 | 27574 | A | 13835 | 3 | 435 | WPRFCTALQEFGTRRERERERERERERERERERERERERERERERERERER |
| 13674 | 27575 | A | 13837 | 351 | 57 | RTLVHISKFTGNLSDLYYVQSEWQDLGT ADLSIMTSVLHCLPSLESIKNTDSWPSS VAHTCNPSTLGGRGRCRDQHGQHSKQPS LLKIQKIARRCGG |
| 13675 | 27576 | A | 13838 | 336 | 150 | TFCYKKYLWGAHCFIFRTTGLPIKNFYF GQAWCLLPVISARWEAETGGSLEPRSLR VAWAS |
| 13676 | 27577 | A | 13839 | 310 | 454 | HCSLGLPQVLLIILYKILLGWARWLTPV IPALWEVEAGGLLEARSSRP |
| 13677 | 27578 | A | 13840 | 163 | 297 | IIFFLLDLKLQGAMTIYVSIYLSIYLSI YLSIYLYTHTLWNTLQL |
| 13678 | 27579 | A | 13841 | 33 | 316 | LDQHPTPRSPLLCHSLRKTSSSQGGKSE LVKQSLKKPKLPEGRFDAPEDSHLEKEP LEKFPDDVNPVTKEKGGPRGPEPTRYGD WERKGRCIDF |
| 13679 | 27580 | A | 13842 | 4474 | 2586 | DGGSGCVKMEFPGGNDNYLTITGPSHPF LSGAETFHTPSLGDEEFEIPPISLDSDP SLAVSDVVGHFDDLADPSSSQDGSFSAQ YGVQTLDMPVGMTHGLMEQGGGLLSGGL TMDLDHSIGTQYSANPPVTIDVPMTDMT SGLMGHSQLTTIDQSELSSQLGLSLGGG TILPPAQSPEDRLSTTPSPTSSLHEDGV EDFRRQLPSQKTVVVEAGKKQKAPKKRK KKDPNEPQKPVSAYALFFRDTQAAIKGQ NPNATFGEVSKIVASMWDSLGEEQKQIY KRKTEAAKKEYLKALAAYKDNQECQATV ETVELDPAPPSQTPSPPPMATVDPASPA PASIEPPALSPSIVVNSTLSSYVANQAS SGAGGQPNITKLIITKQMLPSSITMSQG GMVTVIPATVVTSRGLQLGQTSTATIQP SQQAQIVTRSVLQAAAAAAAASMQLPP PRLQPPPLQQMPQPPTQQQVTILQQPPP LQAMQQPPPQKVRINLQQQPPPLQIKSV PLPTLKMQTTLVPPTVESSPERPMNNSP EAHTVEAPSPETICEMITDVVPEVESPS QMDVELVSGSPVALSPQPRCVRSGCENP PIVSKDWDNEYCSNECVVKHCRDVFLAW VASRNSNTVVFVK |
| | 27581 | + _A - | 13843 | .L | | VASRNSNTVVFVK EFYRMNSPSPLWLCVCVCVCACLFMCLC |

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|--|---|----------------|--|---|---|--|
| | | | | | | ISPAENPGK |
| 13681 | 27582 | A | 13844 | 154 | 26 | DPHVPPTERSEGSQARWLPPVIPTLWEA EACGSPEVKSSNST |
| 13682 | 27583 | A | 13845 | 475 | 225 | GHTELYGGALFQLLQAAIPEGGGTSCLF NPSSDGGSSAAGGVVGGAGDLARSSRVP SPTSSRPVPSPDPSPPSLYLTPWKETH |
| 13683 | 27584 | A | 13846 | 479 | 319 | RDCRRSLTHSVLSGAQAGVQWRDLGSLQ PPPPSRLPWPPKAPRWQPLPGHHPI |
| 13684 | 27585 | A | 13847 | 182 | 499 | LLCVKLCDSCNENKALREQTRAQVQGGH SRAQVQQVQGGHSAHTVVQIRSAASRRK AFSTCSSHLGMVLLFYGTGSSTYMRPTT RYSPLEGRLAAVFYSILIPTLN |
| 13685 | 27586 | A | 13848 | 388 | 494 | RDSWERWLEPLIPVLWEAQAGRLLEPRS LRLAWAT |
| 13686 | 27587 | A | 13849 | 198 | 63 | HHATTWMNLEDIMFRKVSQTQKNKYYMI PLIWKTKKVLSHREQK |
| 13687 | 27588 | A | 13850 | 555 | 353 | RCPPGAQAPLPAPSPAPPVHIALSPLSC GVSWPRELTAHPPEPPPPPFFKIHPHPQ LSVGKRGQMTP |
| 13688 | 27589 | A | 13851 | 169 | 66 | LLAGSTGQARWLTPVIPELWKAEVGGSL EIRSSR |
| 13689 | 27590 | A | 13853 | 12 | 105 | IASGLHDFFKKKKIKKKKKKKKKKKGG AL |
| 13690 | 27591 | A. | 13854 | 256 | 363 | ICLFIKDSDRGQTQWLTPVILTLWKAEA GGSLEPKS |
| 13691 | 27592 | A | 13856 | 23 | 436 | IDRLSDSHEERERERERERERERERERERERERERERERERERERE |
| 13692 | 27593 | A | 13857 | 91 | 428 | PDPDTSPLTTDRGETPLGATLPSCYCGG QQSFEPKTKKTTNQKKKKKGKKFTPQKK NPKIFPPKPFCPKGPRGENQPKKTQNQP KKKKKILGGGPAPNSPLGGGKKNSWAGF |
| 13693 | 27594 | A | 13859 | 465 | 43 | KRVTTENPOHICSAETAIPWSLSQNCNF HILWWGHPNHPIYITTSIYIYIYIPHIY GMVYIYTRICMCVCIYVHICIHTHTHIY IYIHTHTHIYMERERETVSCSVAQAGVQ WCDLGSLQPPNKRLKRFSCLSLPSSWDY W |
| 13694 | 27595 | A | 13860 | 290 | 52 | WYKYLPGTRGFLIWLNYLKCIGRIELLV GYFSFIYLSIYLSIYLSIYLSSRSIAQP GVKRCNHSSLQPRTPGLMHLSNS |
| 13695 | 27596 | A | 13861 | 108 | 22 | IFFLFSAVKTRFSYAFPKEFPYRMNHVS I |
| 13696 | 27597 | A | 13862 | 167 | 33 | VFTVPGTYMCVSVRDLGQAWWLTPVIPA LWEAEAGGSLEEFLRT |
| 13697 | 27598 | A | 13863 | 448 | 355 | PERFEFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF |
| 13698 | 27599 | A | 13864 | 321 | 445 | SQSTQAWCLMPVIPALWETKSSESFEPR SLRPAWATGHNPI |
| 13699 | 27600 | A | 13865 | 380 | 80 | MILSPSPKFPSFLFSLFSALLLWHCLEL PFLSNVGKGMQNDPVGLSPTSTPSDLSR IYLFFCFFVCLFVCFETGFPSVAQAGVQ WCDPLGLKWFLPPQSP |
| 13700 | 27601 | A | 13866 | 372 | 264 | KMENPEDKNFFIFFMFFIVFLLFFFFFL FCLTQFF |

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|--|---|----------------|--|--|--|---|
| 13701 | 27602 | A | 13867 | 161 | sequence 304 | nucleotide insertion LFIAEMTSHYIAOAGLELLASSNPPTSA |
| | | | | 1 | | SERTGITDGATEILPQLRL |
| 13702 | 27603 | A | 13868 | 230 | 348 | VSFIQNLVFCVERVYRVPDFGVWERGSK YNNGSTELHSK |
| 13703 | 27604 | A | 13869 | 168 | 260 | EVIAECYNGCFQTLSLCVCVCVCVCV CY |
| 13704 | 27605 | A | 13870 | 140 | 16 | LKYGQWRDLGSLQPPPPRFKQFSCLSLL SSRNCTTMTRDHE |
| 13705 | 27606 | A | 13871 | 143 | 30 | KILKVVVSQAWWLIPVIPALWEAEVGGS LEPRISRLA |
| 13706 | 27607 | A | 13872 | 158 | 59 | HLHGCIHLLKLRLDAVSHACNSSTLGGQ GGRIA |
| 13707 | 27608 | A | 13873 | 232 | 115 | APFFFKGAPIFFFFFFFFFFFFFIFFLIR GKPGNDVGVEG |
| 13708 | 27609 | A | 13874 | 1619 | 1375 | KTTWRRHLEKLQDMSLLRHRVHVDSSQG LFPFFQRQGLLPRLKCNGDIIPYCNLKL LGWSNSPASAFRVARTTSLCRHTWL |
| 13709 | 27610 | A | 13875 | 219 | 84 | NPLQSTSTICNRAWDRVTCLWSQLLRRL RWEDHLSPGVPSCSAL |
| 13710 | 27611 | A | 13876 | 166 | 496 | KKKKKKKKGGGPLKKTPGGAKINRGRK KKIFFQKGGQKKTPGGILKKKPFLGGGK KGPNPPKKIKGLREKKKFKRGKGAKPAQ NPWGKKISPPGFFLKKFFPRGRGFFI |
| 13711 | 27612 | A | 13877 | 132 | 348 | PSKKKKRGGPFKRTPGGPKFNGGGKGNS FPLMGGGIKPNLGILGKNPYLGGGTNGN NPPTEIKGFGEKKKF |
| 13712 | 27613 | A | 13878 | 287 | 134 | QQGPPISPGPKEENRMGPPSPGWGNPGI RSPPGAGPNPGAFQDGMFPSKKQ |
| 13713 | 27614 | A | 13879 | 333 | 480 | VHPLRSAEGPRPESNMLHLTLKSKQQWL TPVIPALWEAKAGGSQGQEIE |
| 13714 | 27615 | A | 13880 | 1 | 227 | PKIHCKIQHIVVLVSFFPSFFLSFFQGE SCSAAQAGVQWHDLGSLQAPPPGFKWFR FIELLGLGFHSRRMRGKDS |
| 13715 | 27616 | A | 13881 | 276 | 378 | GWPWWLTPVIPALLEAEVGGLLEPRSLR LALAT |
| 13716 | 27617 | A | 13882 | 126 | 389 | GSVLGTGCCGSVLGTVCRGSVLGTVLIA SATPDRYLRLSSGSSLTRITNSDLVPWL TPVIPALWEAEAGVSLEPRIWRPARETW EDPH |
| 13717 | 27618 | A | 13883 | 414 | 150 | ARQAPKWGNPTGSPPPGFLNPPPKNFFL GPQKKKIFFPTPPPPHFFFKGPPPFFF FFFFFFSPHASGILLCHPGRIAVAQSW LTE |
| 13718 | 27619 | A | 13884 | 197 | 363 | DLGVVVVNTFMLKFKCLNVSRGHVQWLI IPVIPILWKAEAGRSLKPRSLRPAWAT |
| 13719 | 27620 | A | 13885 | 101 | 236 | NIHYANFPYFGLACPEYIVRALQKKYTQ THTHTHTHTRTTHSL |
| 13720 | 27621 | A | 13887 | 17 | 140 | TVHLKMVKIGLHMVAHACNPSTLGGRGG PIMRSGALGNFCL |
| 13721 | 27622 | A | 13888 | 135 | 1 | VLHAGLKLLGSSTSPTSASKGAGTVGIH YHTQLAFQFFLFCFLIR |
| 13722 | 27623 | A | 13889 | 411 | 276 | TLYFKHGEMGFHHVGQAGLELLASSDPP ALEFETSLHNKVRPRL |
| 13723 | 27624 | A | 13890 | 216 | 54 | EFKLCYTLFDHSYFPLEELVSGQVWRLR PAIPSFWEAKEGGSLEPRSSKHEIV |
| 13724 | 27625 | A | 13891 | 3 | 149 | SSDPRPSSSWLAWVGLWSMVWRVPPFLL PILFLASHVGKSPLSPSPHF |

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|--|---|----------------|--|--|---|--|
| 13725 | 27626 | A | 13892 | 166 | 1 | LFSKIFWWLLPVIPALREAKVGELLEPG |
| 13726 | 27627 | A | 13893 | 128 | 2 | SSRPAWATWKNPVYTKNTKISQAWQCT FSTTYPNPIKLPHPYLPLLTLFLDSAHL |
| 13727 | 27628 | A | 13894 | 225 | 391 | HPSEINSLVAQKKK HLSIHILTFPFSLPEQWWLVPIIPVLWE VKMGGLLEPRSSRPAWATQQDPQVSRK |
| 13728 | 27629 | A | 13895 | 192 | 1 | TLVCVSSSVPKNYNNICLACWFMPIIPA LWEVESGSLLELKSSPPAWPTWWVPLKS KNTKISLA |
| 13729 | 27630 | A | 13896 | 152 | 245 | DQSIADVLMYYTHTHTHTHTHTHTLQNQ VPG |
| 13730 | 27631 | A | 13897 | 270 | 406 | ISTRFFLYRDRASLCHPGWSAGVQSWLP GSSNSQAQAILLPQPPE |
| 13731 | 27632 | A | 13898 | 232 | 73 | EAEGPRDVTSSTFHWRLYDQTTNYHECR MWANSRLRLTPEGLLKVITPWCHAH |
| 13732 | 27633 | A | 13899 | 107 | 7 | LGQAQWLMPIIPALWEAKAGGSLEPRTS RPAWA |
| 13733 | 27634 | A | 13900 | 62 | 224 | PTRPILAHCNLCVLGSDDPPASASQSAG VTGMSHCAWSNLIIHLPSRSTAICTL |
| 13734 | 27635 | A | 13901 | 450 | 194 | KRQVKSHSEVKTTHVQWPGIDPGSPAWE ARILPLNHQRLSGTTPWRITEKSNHKDL ETVLSGFFKCRLKANKDIQTKCVFIGNF Y |
| 13735 | 27636 | A | 13902 | 300 | 404 | AAPGRAPQKKKKKKKKKKKKKKKKKKAP FIKRGR |
| 13736 | 27637 | A | 13903 | 131 | 29 | ALGSLQPLSPRFKRFSCLSLPSSWNSTA LTVTTM |
| 13737 | 27638 | A | 13904 | 267 | 74 | VWVLVPPFTSYGVLDKP1LIVNN1YVHV CVCLCMCVCVCVCVCCTVIRRHCWHNMI IIISQHDQ |
| 13738 | 27639 | A | 13905 | 193 | 64 | IRSHQIHKLHFKKFRILGWTWWLTPVIP APWEAEEGRSPEPSS |
| 13739 | 27640 | A | 13906 | 309 | 424 | QSTDFLENRRVGWAWWLTPVIPALWEAE VGGLPEIKNS |
| 13740 | 27641 | A | 13907 | 404 | 251 | SCLISLRSWDYRHVPPQPANFVFFFFEM ESCSVAQSGVQWQEENSISKINK |
| 13741 | 27642 | A | 13908 | 471 | 59 | GPPQAKKGKGFPTPGPPQKKGGGQPKSG VLGFSPPPLGPCPGLGPPKGWGFWGGSF FFFFFFKWEHKNELFPFSKTEKPRAG EARKGSQSTKYAGLSRGERQASPTLRPG HLAKASAGGWLQYTRWQGKLPEPGN |
| 13742 | 27643 | A | 13909 | 479 | 231 | QEYCMLIFCEHFGDFDLNIVFCLEKKMV GVIADFYLLSSFTGRPQWLMPVIPTLWE AEVGGSLEAKSFTPAWATWQDPISMF |
| 13743 | 27644 | A | 13910 | 167 | 19 | CIVLGIMLDSLWEPRQWVPSWVRWFTPV IPALWEAEAGGSPEVRSSNSS |
| 13744 | 27645 | A | 13911 | 328 | 446 | GSFSKITDLSQTWWYVPVVLALQESEVG RSLEPRSSRLQ |
| 13745 | 27646 | A | 13912 | 145 | 460 | NAFMSTGCEVLSYSELRQRNLVWWFLPV IPATPQAEAGRLLGPRSSRPPWATKGVR ALSHKQTNTKTNKLSHSTGVSFVFTHHI HSPGILWRLSQWLLAMNLATN |
| 13746 | 27647 | A | 13913 | 319 | 210 | KLGFFKGPPLFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF |
| 13747 | 27648 | A | 13914 | 372 | 10 | PNTTCTPITYGKKCCPREISYYLCHEFI RIRILTFFDGESCYIAQAGLKLLGSRSP PTSASGVAGNTDVCHHTQPILFYILETG |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|---|--|
| | | | | | | LALLPRLILNSWSQAILLPPQPLRSYFN FWLFFCLYN |
| 13748 | 27649 | A | 13915 | 594 | 471 | PSYIAYMCICMCVCVYVYINICVCIYTH VHTPYNPVISKN |
| 13749 | 27650 | A | 13916 | 235 | 3 | EANNLIRKTYTSGWFQRTSKRPPAVRRM KVLFFETESCSVAPVGVEWHDHSLLQPR PPGLNRSSHLSFPSSSDYRWA |
| 13750 | 27651 | A | 13917 | 272 | 184 | KTTAWAQWLTPVISTLWEAKVGGSLEAG S |
| 13751 | 27652 | A | 13918 | 46 | 321 | SRVQGTGGHRGRGCIQAGVGEQEAKRET EGPPWRWLTPVISKLWEAKAGGSLEPVS SRRATWNLLKRIYYTDEREYLIPLALNT SQGSTFSF |
| 13752 | 27653 | A | 13919 | 387 | 484 | FIEIIGWARWLMPVIPTLWEAEAGGSPE VRSS |
| 13753 | 27654 | A | 13920 | 142 | 321 | FLFSIHFHLSCWGLFSNVWQSLSIFSYL KVRLYGQAWWFTPIILALWEDKAGGSLD PRSL |
| 13754 | 27655 | A | 13921 | 270 | 412 | IEDKKIYSILHTETLERGQARWLTPVIP AFWEVKAGGSFEPRSLRPV |
| 13755 | 27656 | A | 13922 | 304 | 396 | NFGWAQWLTPVIPALWESEAGGSLEPRG LRS |
| 13756 | 27657 | A | 13923 | 305 | 387 | VWWLTPVIPALWEAEAGGSPEPRSSRP |
| 13757 | 27658 | A | 13924 | 103 | 3 | NKSPELGWAWWLAPVIPALWEAEAGGSP EVRSS |
| 13758 | 27659 | A | 13925 | 195 | 400 | CLLILSGLVASCIIERHGKGQAWWLMPV IPTLWEAKVGGSLELRNLRSAWGTWRNS ISIKYTEQLAQG |
| 13759 | 27660 | A | 13926 | 294 | 489 | KWAKMQTLHKGRYACVCICVCVCVYT YTDIYIFYIHIWPMNTKCSMLLVIGEMK ILSRMWSNQ |
| 13760 | 27661 | A | 13927 | 363 | 2 | NWGPPGFPPPPFLKTGPVFFIFGAPKKK FFLSTPRALKFVLLKGGPLFFFFFFLWV FLVKTGSHCVAQPDLELLSSSNPVLVSQ GAGITGMSPQVQPLDLFFFFSFFETGSR SYAWADAW |
| 13761 | 27662 | A | 13928 | 1 | 218 | LRFKKRKTNKPKMWSVHTMEYHSALKRK EIRTQTTRWINLEDIVLSEIRVAVTKGR ILYDSTQMRNLEESNL |
| 13762 | 27663 | A | 13929 | 219 | 408 | TFCHFIAFLHVYKMFVVFFFSFIMFFFP LNCNKAFERKKKKNKKNNKKKKKKKKIS LSPPAPP |
| 13763 | 27664 | A | 13930 | 161 | 22 | WHPPASASHVAGTTGACHHERLRQEDHF SLRVQGCSEPRLCHHTPP |
| 13764 | 27665 | A | 13931 | 116 | 1 | INTGWARWLTPVIPAFWEAAVGGSLEPR STSQAWATWK |
| 13765 | 27666 | A | 13932 | 181 | 38 | PWPQRATQPKISPLPPAISALWEAEAGG ALEPRSSRPAWAKSDAWVD |
| 13766 | 27667 | A | 13933 | 267 | 397 | TVFDRTLFFIKKIIHSWAPWLTPVVPAL WEAEVCGSPEVRSSG |
| 13767 | 27668 | A | 13934 | 129 | 12 | NIGVGWALWLTSVIPALWEAEAGGPPKV RSSRTARPMS |
| 13768 | 27669 | A | 13935 | 179 | 1 | KTYYGGIPPPGPPKKGEKKPPFFFKKFF LFFISFFIFFFFFFLRQSLAKMQSASVW KVS |
| 13769 | 27670 | A | 13936 | 245 | 616 | DDKKKKEAAQKKATEQKIKVPEQIKPSV SQPQPANSNNGTSTATSTNNNAKRATAN |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|---|---|--|
| | | | | | | NQQPQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ |
| 13770 | 27671 | A | 13937 | 121 | 292 | NTDLDLALALIVRVLTSDDNFKNWGWVQ WLMPVFPAPWEAEVGGSSEATNLRPAWA T |
| 13771 | 27672 | A | 13938 | 421 | 202 | GPREAPLFPSTQGISRPLFFFFFFETES RTVTRAAAQWHNLGSPQPPLCSLDILKT SQSVCMPEAAILVSQIT |
| 13772 | 27673 | A | 13939 | 205 | 543 | ILESHRRLGWSEALPENQLLCRASSWES LGPPDPPCLKPPSPAFWGAAGGWRAKST SVSEPVPVGTLLVALFLEMAVGLLLGLP FCFHSLGAPHLLCEPDGPSVLPAEARQS R |
| 13773 | 27674 | A | 13940 | 140 | 2 | LSQHSEEYTLPPPLYLEKESSRPPPPQH TPHPPPPWPWHPDIADIQ |
| 13774 | 27675 | A | 13941 | 47 | 303 | GLIFLIIWTCIVKTSTDFPRMEDCSQCI HQVTEESNKRMGFLSYYANPHHGSSRLL WPQHAAPWDDGRRGKPVFSLGFVSFPFP Q |
| 13775 | 27676 | A | 13942 | 1488 | 1719 | PLVSFSKNTYPCLGNVKQNQKTTFCSRW KLHVLSSNLSSPAEVTVVASINLVVSEQ SFQNSQLPAMLCLIVHLOMS |
| 13776 | 27677 | A | 13943 | 127 | 402 | QPVTHPPNRTMCSSMIFLFLYLCFLSLS PFPSHLSLYAPPKKKKKKKKKKKKKKKK KKKKKKKKKKKKKKKKKKK |
| 13777 | 27678 | A | 13944 | 852 | 209 | EQTVYCTRIDLQQKLVFLRLEAFCLLSQ GDPGSPMMCQLQQFDLWVLRGVLNFGGE TCPGLFLYTKVEDYSKWITSKAERAGPP LSSLHHWEKLISFSHHGPNATMTQKTYS DSELGHVGSYLQGQRRTITHSRLGNSSR DSLDVREKDVKESGRSPEASVQPLYYDY YGGEVGEGRIFAGQNRLYQPEEIILGSL RACFLFAAVSSPGATPPN |
| 13778 | 27679 | A | 13945 | 68 | 260 | INIFWHCVLLYVILYAISQFLLFPCVKN IASWLGSVAHACNPSTLGGQAGESLEPR NLRPAWAT |
| 13779 | 27680 | A | 13946 | 420 | 156 | FLPPGVKYGSFKRAPPFFFFFFFFLVET LSCYIAHTGLELPDSSNYPTSASQSAVI TGMSHHTWPLEGACLAIPQALRILLVLV PLH |
| 13780 | 27681 | A | 13947 | 317 | 17 | AGHGGSTCNPSQPIVTAVPINLWGRDLL QQWGAQAFIPEQLYSPQSQHTMQEMGYV PGMGLEKNLKGLKKPLQAEGQNSHQGLG YNFSWQPLLSLQNLYL |
| 13781 | 27682 | A | 13948 | 55 | 224 | NFRLTSSFSYLKMSFWLGMWLTPVIPAL WEAKTGGLFEARSLRLVWWQSKKAGSHL |
| 13782 | 27683 | A | 13949 | 1464 | 805 | RATSVRGAGRERSCGAAWSPASIGPFLR RSVLPNAHFRSSREGGMAASTDMAGLEE SFRKFAIHGDPKASGQEMNGKNWAKLCK DCKVADGKSVTGTDVDIVFSKVKGKSAR VINYEEFKKALEELATKRFKGKSKEEAF DAICQLVAGKEPANVGVTKAKTGGAVDR LTDTSRYTGSHKERFDESGKGKGIAGRQ DILDDSGYVSAYKNAGTYDAKVKK |
| 13783 | 27684 | A | 13950 | 356 | 98 | NAGPGIYFWGPIKKILPCPPAGVKLGSL KRAPLFFFFVEMGFHHVAQAGLKLLSSR |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|---|----------------|--|--|---|--|
| | | | | | | DSPIPVSQSIRITSTCEPPCLAKIKSSL RL |
| 13784 | 27685 | A | 13951 | 194 | 48 | NFLEGWPGQRLTPVIPALWKAEAGGSLE PKTFRPVWAMWRDRLRKPQH |
| 13785 | 27686 | A | 13952 | 341 | 418 | DQPGQHGETPSILKIQKLAGRGSTCL |
| 13786 | 27687 | A | 13953 | 158 | 323 | TWLKKYFQSTNQLPPAHLLNVQPLLPFG LPLLPLKKKKKKKKKKKKKKKKKKKKKKKKKKK |
| 13787 | 27688 | A | 13954 | 231 | 355 | VFLPQKQKQNQCPLTGKWVNNSWNIHTL EYYSAVKGMKQLI |
| 13788 | 27689 | A | 13955 | 493 | 39 | PAAFSSWGWAPGSSLLKKTTPASWPPGL LPPAPVSSMAAPDLDSFPLPLCWTFLRV LCRVFSSSTLAFLSCVSTSFGALTPAAS SNIFSISLPHWASPPLPTARLTSAVSPE PLPPLPSRLQRQPRGAPSHPGMSMGPIL DATSNSTTRSR |
| 13789 | 27690 | A | 13956 | 497 | 372 | NTKISWASWYAPVIPATWEVSNSRPQAI HSHQPPKRIGLQA |
| 13790 | 27691 | A | 13957 | 438 | 301 | GTTYLDIDMTCDYVSVCLCIYICTRQQS YIYTYVYTHTHTHTHMYI |
| 13791 | 27692 | A | 13958 | 84 | 466 | QPLGRSGKVPQLHLWEMQRLPAAFFRSF AAQGLGESVHINTPTSLSLRGRPFISSS GPGARARVTCAPCLHAARILCCFWRGLH RLKCSNVISAHCNLRFSGSSDSPASASQ VAGITGRSSLEQLLE |
| 13792 | 27693 | A | 13959 | 216 | 28 | KYVKNYVLSSIIFWMQEIFHNFKKSSRT QWLTPVIPALWEAEAGGSPEPRSSRPAS SIQLENS |
| 13793 | 27694 | A | 13960 | 320 | 943 | VLSFSLSDRAQRCNCRMGKQNSKLAPEV MEDLVKSTEFNEHELKQWYKGFLKDCPS GRLNLEEFQQLYVKFFPYGDASKFAQHA FRTFDKNGDGTIDFREFICALSITSRGS FEQKLNWAFNMYDLDGDGKITRVEMLEI IEAIYKMVGTVIMMKMNEDGLTPEQRVD KIFSKMDKNKDDQITLDEFKEAAKSDPS IVLLLQCDIQK |
| 13794 | 27695 | A | 13961 | 191 | 8 | GLFRFRRLSEEVKHCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC |
| 13795 | 27696 | A | 13962 | 203 | 28 | VWGNQHFCFVPVFRKKVFCFFPLNKLLR GGFFFFFFFFFLVFIDNSWVFLGEGDLA GS |
| 13796 | 27697 | A | 13963 | 18 | 171 | GIRHEERERERERERERERERERH PAREIDMCVSKRDTRGALCALF |
| 13797 | 27698 | A | 13964 | 25 | 299 | HDFCTRRERERERERERERERERERERERERERERERERERER |
| 13798 | 27699 | A | 13965 | 246 | 410 | AYNGQGSRGVTPVIPSLWEAKTGGSLEP RSWRSAWATWHTPPVPGPSKEISLYI |
| 13799 | 27700 | A | 13966 | 91 | 26 | FCCCGCCCCCFYCKKEKTLV |
| 13800 | 27701 | A | 13967 | 158 | 24 | PFCHIYIYFLESCFVAMLECSGKILAHC YLRLLGSSNSLVPSLA |
| 13801 | 27702 | A | 13968 | 129 | 7 | SWAQWLMPIIPTLWEHEAGRSLEAMSSR PAWATQQDPVSKK |
| 13802 | 27703 | A | 13969 | 445 | 268 | KIQLTKLKNASESLPSRINQAEEKISGW AWCLMPVIPVLWEAKAGGSLEPRSLRRG QVT |

| ERRRESVCVCULGTTTCRRRYCYULG SGYRONCYTEALSUCATION SGYRONCYTEALSUCATION SGYRONCYTEALSUCATION SGYRONCYTEALSUCATION SGYRONCYTEALSUCATION STATE 13804 27705 A 13971 314 140 GCINCEY LITQULVIL KERODAWWIAMPT 13805 27706 A 13972 292 482 YKSYRTODS CARGVDRLVGKIRYVNI YICHBORGYWMLTPVIP PLWETROC 13806 27707 A 13973 502 303 STATE S | SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
|--|--|---|----------------|--|---|---|--|
| 13805 27706 A 13972 292 482 | 13803 | 27704 | A | 13970 | 1628 | 1309 | HRRKKCAGYSSLSSÄLLRERERERER ERERESVCVCVLGTITCFRRQYCVIQGI SGVRQNCVQIPALSDPDLFLFLSLSVLH SNTWVVRPTLRVTERNKGAMCV |
| 13806 27707 A 13973 502 303 STAIGPSESPILCTHGSPHGFLEFFE CFFILVEMISHYAPAGIKLIGSSDF ASSPHILALOV ASSPHILALOV ASSPHILALOV ASSPHILALOV ASSPHILALOV ASSPHILATOR ASSPTILATION ASSETTING ASSPTILATION ASSETTING ASSPTILATION ASSETTING ASSETTING ASSPTILATION ASSETTING A | 13804 | 27705 | A | 13971 | 314 | 140 | QCHNCYILTQLVKIKGDQAWWLMPIIPA LGAKAGGSLEAGSLRSAWATWRAPMSTK IF |
| 13807 27708 | 13805 | 27706 | A | 13972 | 292 | 482 | YKSVRTQDSCAHGVDRLVGKIRYVNLFV YICQHSDGRTWWLTPVIPPLWETKGGGS SEVGRSG |
| Transfer | | | | | | |
| 13809 27710 | | | | | | · | |
| RVCVCVCVC RVCVCVC RVCVCVCVC RVCVCVC RVCVCVCVC RVCVCVCVCVC RVCVCVC RVCVCVCVC RVCVCVCVC RVCVCVCVC RVCVCVCVCVC RVCVCVCVCVC RVCVCVCVCVCVC RVCVCVCVCVCVC RVCVCVCVCVCVC RVCVCVCVCVCVC RVCVCVCVCVCVC RVCVCVCVCVCVCVCVCVCVCVCVCVCVCVCVCVCVCVC | 13808 | 27709 | A | 13975 | 405 | 121 | IYAVKDTRCMQRRILVRELECAAHGLTE CLSIDTHTHTHTHTHTHTHTHTHT |
| RIISERSWAEIG | | | | | | | |
| 13812 27713 | | | | | | | KIISERSWAEIG |
| 13813 27714 | 13811 | 27712 | A | | | 186 | RD |
| | | | | | | | GGLLESRSSRIAWAMW |
| TYLHAHPLIHANAYKNIHIDYPFKKG Y | 13813 | 27714 | A | 13980 | 421 | 106 | KKKPPLPKKKNPTPIFFPPGGGPPFSPP PKKGGGKIFFFFGGKNFIMQNFGGFPPL |
| MVKLRVSISQVQWLMPVIPALWEAKA | 13814 | 27715 | A | 13981 | 309 | 135 | KHIYIYLSIYLSIYLSIYLSIYLPAYLP TYLHAHPLIHANAYKNIHIDYPFKKGFE Y |
| PLILEKFLNFSKPLSHPGKRDP 13817 27718 A 13984 391 249 IWPILPPQKIFFFFETESCSVTQAR WCNLGSLQPPNPVFPSLAK 13818 27719 A 13985 181 403 YLVLDSPESTLGILSQPKDYITKDQT FRPVVVAHACNPSTLGSQGKWITSVQ ETSLCNTARPCLYQKYKN 13819 27720 A 13986 441 358 ETGSRCVILAGAQWRDLSSVQPLPPR 13820 27721 A 13987 7 233 ASIPCIYQKTKIPNTKQTKNKNTKIT WWCTPIAPATQKAEIPPLHSSLGDFI SPKKKKGGPNWAPTPSKFF 13821 27722 A 13988 152 44 PKAPLFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF | 13815 | 27716 | A | 13982 | 231 | 21 | QHMYCLKSIWHKKLSRKPYCYIISEYSS MVKLRVSISQVQWLMPVIPALWEAKAGG LLKARSSRPMWAI |
| 13818 27719 | 13816 | 27717 | A | 13983 | 209 | 359 | HLHTHTHTHTPNGVKQIMTQIPILPLTG PLILEKFLNFSKPLSHPGKRDP |
| 13818 | 13817 | 27718 | A | 13984 | 391 | 249 | IWPILPPQKIFFFFFETESCSVTQARVQ WCNLGSLQPPNPVFPSLAK |
| 13820 27721 A 13987 7 233 ASIPCIYQKTKIPNTKQTKNKNTKIT WWCTPIAPATQKAEIPPLHSSLGDFL SPKKKKGGPNWAPTPSKFF 13821 27722 A 13988 152 44 PKAPLFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF | 13818 | 27719 | A | 13985 | 181 | 403 | YLVLDSPESTLGILSQPKDYITKDQTLT FRPVVVAHACNPSTLGSQGKWITSVQEV ETSLCNTARPCLYQKYKN |
| WWCTPIAPATQKAEIPPLHSSLGDFI SPKKKKGGPNWAPTPSKFF 13821 | | 1 | | | | | ETGSRCVILAGAQWRDLSSVQPLPPRFK |
| QRHDHGSL 13822 27723 A 13989 188 379 NVSCHAAETRVWWEKERPLPVPFGAY DGMPLVWLLSASSILSIWLSIYLSIY IYLSIYF 13823 27724 A 13991 296 53 SSILFHASKYHFSGRLFSLLSCKRRN QLVPHMYSPYLYMYIHTHKHIYEYMY | | * | | | | | |
| DGMPLVWLLSASSILSIWLSIYLSIY IYLSIYF 13823 27724 A 13991 296 53 SSILFHASKYHFSGRLFSLLSCKRRN QLVPHMYSPYLYMYIHTHKHIYEYMY | | | | | | | |
| QLVPHMYSPYLYMYIHTHKHIYEYMY | | | | | | | |
| | | | | | | | SSILFHASKYHFSGRLFSLLSCKRRNIL QLVPHMYSPYLYMYIHTHKHIYEYMYVH IYIYMNLRNCRIYLHSCTPKENQAR RLGSPASRHQQIQCLIRACLKDGTLGWV |

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|--|---|----------------|--|---|---|--|
| | | | | | | WWLIPVIPALWEAKVGGSLEPRSSTPAW ATQGDLILKKDGTLLQCPHVAKGHSSHS |
| 13825 | 27726 | A | 13993 | 189 | 370 | SRNAIFKKRWESSCQSSFNSLGVFPQAA TKGWVRWLTLVIPALWEAKAGGSLEPRS SRPA |
| 13826 | 27727 | A | 13994 | 179 | 25 | SKHNKKNIQICLLCSKRSMFVHVCIHIH ICVYVYRYAYIYIGMCIHIYIHS |
| 13827 | 27728 | A | 13995 | 159 | 2 | EDPLSPGVQDQHGHHRKSLSGRGGKISL GQEFKSSMAAMYFGRSGGCKLERR |
| 13828 | 27729 | A | 13996 | 307 | 99 | FIWEHFVNYTMFFTYKKPTSQAWWLMPV VPALWETEAGGSPEVRSPRPPGQHDDVR PLGPSLHVYLQMD |
| 13829 | 27730 | A | 13997 | 218 | 21 | FQHFGRPRRVDHLSLGVQDQPGQHGETP SPLASSILDLIPPPFPIDEPVDLAFQSV TLGVQDTTS |
| 13830 | 27731 | A | 13998 | 227 | 404 | GYSVTLLLGLTQLTQRIAHGTRKGERER EREREREREVCSCLMHELASHLLFFFL FRE |
| 13831 | 27732 | A | 13999 | 400 | 668 | PVGRRWELQGMGLGVRTWQSSLPCQGPT SSSVLSLGRGTPGISNTCLPPRSATELG LPAQVPFPNVQSQDQDLSFSLGCFPRTY NRQTL |
| 13832 | 27733 | A | 14000 | 225 | 414 | NRVLLCHTGWSTVAILAYCSFKLLGSRD SPTLASRAARTIVKCRNVWLIKKKKKK KGGRRL |
| 13833 | 27734 | A | 14001 | 397 | 118 | LFSGPFFFDKSECFQEPTVPFCLLLYNQ MQPYLLRSAFVDSYYMYDSFLRDRVSFC QSGWSTVAPSRLTAALNSLAQVILLPQP LNVLCGISR |
| 13834 | 27735 | A | 14002 | 3 | 173 | YVFYRQKQMVCFYKIRIKNMFNRNRLNL GQWCVPIVPATQVAEAGGSPEPTSLRPI |
| 13835 | 27736 | A | 14003 | 440 | 290 | YTHTLYIYIYIHTHTHTHTYIYLCTYWG QFDLLVLDNKLYKEIYYLSVFI |
| 13836 | 27737 | A | 14004 | 2 | 116 | ARLVAMPFKYEEIKDFLLTARRKDAKSV KIKKNKSAAV |
| 13837 | 27738 | A | 14005 | 279 | 422 | SAKAPLSCLRTNSLLLKNGLRGWAWWIT PVIPTLWEAEVGGSPDVTSP |
| 13838 | 27739 | A | 14006 | 3 | 497 | GGIGDSRCGSTRASSSPQLAGRSSSVLP AAAQPCTPTMDVFKKGFSIAKEGVVGAV EKTKQGVTEAAEKTKEGVMYVGAKTKEN VVQSVTSVAEKTKEQANAVSEAVVSSVN TVATKTVEEAENIAVTSGVVRKEDLRPS APQQEGEASKEKBEVAEEAQSGGD |
| 13839 | 27740 | A | 14007 | 1 | 292 | SLGGGGCNDPRSYHCTPAWATEQDTVSL SLSIYMSVRVCIYMYMCVCVCIRIYTYI HTHIHIRVYIYTIPYIWGIYIYIYVDLV IYMGWCGCPPPSI |
| 13840 | 27741 | A | 14008 | 57 | 250 | KIFFFLMNHTWGGVPVVLATWEAEVGGS LEPRSLGLQETMMTSLLSRLPRQQGEIL SLILKRNY |
| 13841 | 27742 | A | 14009 | 184 | 2 | AVPGRWPCQQVPGLLPSIQDTLKQGRTG QWLTPVTPMPWEAEAGGSLDARSLRPAW ATGK |
| 13842 | 27743 | A | 14010 | 123 | 3 | KEPSRPGRWLTSIIPACWEAEAGGPPEA RSSTREFRTAK |
| 13843 | 27744 | A | 14011 | 403 | 168 | GTGLRASRCISQPVMSGLLSPSEFPFPE IESHLHVSQRETAARLRDRERERARERE RERERGKNASSGKPPGSASCVP |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 | Predicted beginning nucleotide location | Predict- ed end nucle- otide | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, |
|--|---|----------------|--------------------------------------|---|---|---|
| | | | 26 | correspond ing to first amino acid residue of peptide sequence | location correspon ding to last amind acid residue of peptide | K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible |
| | | | | | sequence | nucleotide deletion, \=possible nucleotide insertion |
| 13844 | 27745 | A | 14012 | 207 | 422 | EIRRGSLAGPLSLNFILSVMGSHSKYLR KVIGRAQWLMPVVPALWEAEVGKLHELR RLGHTWAAW |
| 13845 | 27746 | A | 14013 | 200 | 405 | WLCVLGWSLLALSPRLECYGPISAHCNL HLLRSSDSPASASQALQEAWYQHLLLMM PQAASTOVGRKK |
| 13846 | 27747 | A | 14014 | 319 | 176 | KPSTITFLFLHLFISSRESRPVTQTEVK WLNHSSPQPPTPRFSLPSS |
| 13847 | 27748 | A | 14015 | 63 | 401 | EQENKNTINSPGWDGVHIHVLRFLNTRM PLGHLSFSEGVSGSGSSGRRCQAGAGGR SATAAARPCQCLGLKGLPPAVPSCGLEG KAPERAGYSASHPPHGCETGNGWVLYVN |
| 13848 | 27749 | A | 14016 | 416 | 63 | VSKVYPKINHTQRTVRHETFKIAMPKYY SNLCSILRFNKDRLAFMRHYTKQCSRTS ITEYIAMFFFVCLFVLKIGAHCHPGWNE VVLVCSQVTAASTSRAQAILPPQPPKIL GMOOA |
| 13849 | 27750 | A | 14017 | 196 | 425 | SLMFRPPLFSFCCFCIRYPFIFVFFSLL CFAFSWCSLLLFFFHYLKLFLLFFF LPVLLCLDSFLVHDFFLLSS |
| 13850 | 27751 | A | 14018 | 3 | 233 | SSRMGRGTKTIAFDMRWSCEVDRARHRD REREREREREREREKGAEPQEFPVISPW VDRPCLAGILHLKCGCGHRL |
| 13851 | 27752 | A | 14019 | 163 | 1 | AERWHDQICVEREIWGWVQWLMPVIPVL WEAKAKNLLEPKNLKLQRNRRPGNSR |
| 13852 | 27753 | A | 14020 | 203 | 83 | LKKKKNKSQAQWLTSVVLASQEAEAGGS LEPRNSRPAWAT |
| 13853 | 27754 | A | 14021 | 179 | 3 | VTWQRELRLQMELRLLICRAWWLTPVIP VPWEAKAGGSPEPRSSRPAWETRNRRPG NS |
| 13854 | 27755 | A | 14022 | 358 | 431 | WHKKKNQNWLGTGAHACNPSTLGG |
| 13855 | 27756 | A | 14023 | 98 | 3 | GRPAGWLTPVAPTLWEAEMGGSLEPRSL GHE |
| 13856 | 27757 | A | 14024 | 254 | 385 | RENWAEPSSHSLLNIFLQLGTVARACNP STLGGRGGWITRSGD |
| 13857 | 27758 | A | 14025 | 140 | 1 | KGVLDGPRGLCVFCFCFFFLCVCVCVCV CVCVWRRSLTLSPRLQCI |
| 13858 | 27759 | A | 14026 | 579 | 852 | QREWVGWAGKEGEGWVSHVPASAQLPAN GQRGQPHPSPLGGTGSTWAQEGAYCCLS SCSHCCCCSSCCCCCPPGFCLFPSLGAI CHLYHL |
| 13859 | 27760 | A | 14027 | 30 | 663 | LRIRALRELPASHIPGSLTICCVPRPPL PCSSTKPDAKGYKPLAQQKLGSQRTGPC LGHAPCYSPLWELRGHGCSPYGPSPSGS VSLWQEAMRLPKNTPEEKDRRTAALQEG LRRAVSVPLTLAETVASLWPALQELARC GNLACRSDLQVAAKALEMGVFGAYFNVL INLRDITDEAFKDQIHHRVSSLLQEAKT QAALVLDCLETRQE |
| 13860 | 27761 | A | 14028 | 1 | 267 | AVGVHHAFHLPHCFFASLLESPVSPRLA MDPNCSCAAGVSCTCAGSCKCKECKCTS CKKSCCSCCPVGCSKCAQGCVCKGASEK CSCCD |
| 13861 | 27762 | A | 14029 | 46 | 1746 | PAAGAATMEFRQEEFRKLAGRALGKLHR LLEKRQEGAETLELSADGRPVTTQTRDP PVVDCTCFGLPRRYIIAIMSGLGFCISF GIRCNLGVAIVSMVNNSTTHRGGHVVVQ KAQFSWDPETVGLIHGSFFWGYIVTQIP |

| SEQ ID NO: of nucleotide sequence | SEQ ID NO: of peptide sequence | M eth od | SEQ ID NO: in USSN 09/515,1 26 | Predicted beginning nucleotide location correspond ing to first amino acid residue of peptide sequence | Predict- ed end nucle- otide location correspon ding to last amino acid residue of peptide sequence | Amino acid sequence (A=Alanine C=Cysteine, D=Aspartic Acid, E=Glutamic Acid, F=Phenylalanine, G=Glycine, H=Histidine, I=Isoleucine, K=Lysine, L=Leucine, M=Methionine, N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion GGFICQKFAANRVFGFAIVATSTLNMLI |
|--|---|----------------|--|---|---|---|
| 13862 | 27763 | A | 14030 | 240 | 63 | PSAARVHYGCVIFVRILQGLVEGVTYPA CHGIWSKWAPPLERSRLATTAFCGSYAG AVVAMPLAGVLVQYSGWSSVFYVYGSFG IFWYLFWLLVSYESPALHPSISEEERKY IEDAIGESAKLMNPLTKFSTPWRRFFTS MPVYAIIVANFCRSWTFYLLLISQPAYF EEVFGFEISKVGLVSALPHLVMTIIVPI GGQIADFLRSRRIMSTTNVRKLMNCGGF GMEATLLLVVGYSHSKGVAISFLVLAVG FSGFAISGFNVNHLDIAPRYASILMGIS NGVGTLSGMVCPIIVGAMTKHKTREEWQ YVFLIASLVHYGGVIFYGVFASGEKQPW AEPEEMSEEKCGFVGHDQLAGSDDSEME DEAEPPGAPPAPPPSYGATHSTFQPPRP PPPVRDY VFTAOSNGGVELNRFNEGPLSAVLKGRV |
| | | | | | | AWAQWLTPVIPTLWEVKAGGLLEARSLS PA |
| 13863 | 27764 | A | 14031 | 289 | 414 | HAEMGRVQWLTPAIPALCKAEAGGPPEP RSLRPAWATY |
| 13864 | 27765 | A | 14032 | 386 | 1765 | LGDARAPEKMSAIQAAWPSGTECIAKYN FHGTAEQDLPFCKGDVLTIVAVTKDPNW YKAKNKVGREGIIPANYVQKREGVKAGT KLSLMPWFHGKITREQAERLLYPPETGL FLVRESTNYPGDYTLCVSCDGKVEHYRI MYHASKLSIDEEVYFENLMQLVEHYTSD ADGLCTRLIKPKVMEGTVAAQDEFYRSG WALNMKELKLLQTIGKGEFGDVMLGDYR GNKVAVKCIKNDATAQAFLAEASVMTQL RHSNLVQLLGVIVEEKGGLYIVTEYMAK GSLVDYLRSRGRSVLGGDCLLKFSLDVC EAMEYLEGNNFVHRDLAARNVLVSEDNV AKVSDFGLTKEASSTQDTGKLPVKWTAP EALREKKFSTKSDVWSFGILLWEIYSFG RVFYPRIPLKDVVPRVEKGYKMDAPDGC PPAYYEVMKNCWHLDAAMRPSFLQLREQ LEHIKTHELHL |
| 13865 | 27766 | A | 14033 | 619 | 414 | EQARCLEQHACTSPRQPRPQLQCSELKG HSLGMEHQGHVPCLHPCSPCPPVKASPA CWSSNPAPLCPH |
| 13866 | 27767 | A | 14034 | 2 | 614 | LESRPDGRPSSTHPASPSAFSAPGKPHP PEAKMSSKRAKAKTTKKRPQRATSNVFA MFDQSQIQEFKEAFNMIDQNRDGFIDKE DLHDMLASLGKNPTDEYLEGMMSEAPGP INFTMFLTMFGEKLNGTDPEDVIRNAFA CFDEEASGFIHEDHLRELLTTMGDRFTD EEVDEMYREAPIDKKGNFNYVEFTRILK HGAKDKDD |
| 13867 | 27768 | A | 14035 | 1 | 254 | AVEFGPAGPGSLGRAAAMIIPVRCFTCG KIVGNKWEAYLGLLQAEYTEGDALDALG LKRYCCRRMLLAHVDLIEKLLNYAPLEK |
| 13868 | 27769 | A | 14036 | 494 | 148 | FRFLSDCGVFAEGHIELQVESGVPLGFS TMAEDMETKIKNYKTAPFDSRFPNQNQT RNCWQNYLDFHRCQKAMTAKGGDISVCE WYQRVYQSLCPTSWVTDWDEQRAEGTFP GKI |
| 13869 | 27770 | A | 14037 | 130 | 3969 | IMGDVKNFLYAWCGKRKMTPSYEIRAVG |

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|--|---|----------------|--|--|---|--|
| | | | | ing to first amino acid residue of peptide | correspon ding to last amino acid | N=Asparagine, P=Proline, Q=Glutamine, R=Arginine, S=Serine, T=Threonine, V=Valine, W=Tryptophan, Y=Tyrosine, |
| | | | | sequence | residue of peptide sequence | X=Unknown, *=Stop codon, /=possible nucleotide deletion, \=possible nucleotide insertion |
| | | | | | | NKNRQKFMCEVQVEGYNYTGMGNSTNKK DAQSNAARDFVNYLVRINEIKSEEVPAF GVASPPPLTDTPDTTANAEGDLPTTMGG PLPPHLALKAENNSEVGASGYGVPGPTW DRGANLKDYYSRKEEQEVQATLESEEVD LNAGLHGNWTLENAKARLNQYFQKEKIQ GEYKYTQVGPDHNRSFIAEMTIYIKQLG RRIFAREHGSNKKLAAQSCALSLVRQLY HLGVVEAYSGLTKKKEGETVEPYKVNLS QDLEHQLQNIIQELNLEILPPPEDPSVP VALNIGKLAGFEPSQRQNQVGVVPWSPP QSNWNPWTSSNIDEGPLAFATPEQISMD LKNELMYQLEQDHDLQAILQERELLPVK KFESEILEAISQNSVVIIRGATGCGKTT QVPQFILDDFIQNDRAAECNIVVTQPRR ISAVSVAERVAFERGEEPGKSCGYSVRF ESVLPRPHASIMFCTVGVLLRKLEAGIR GISHVIVDEIHERDINTSFLLVVLRDVV QAYPEVRIVFMSATIDTSMFCEYFFNCP SLKLWRTYPVQEYFLEDCIQMTHFVPPP KDKKKKDKDDDGGEDDDANCNLICGDEY GPETRLSMSQLNEKETPFELIEALLKYI ETLNVPGAVLVFLPGWNLIYTMQKHLEM NPHFGSHRYQILPLHSQIPREEQRKVFD PVPVGVTKVILSTNIAETSITINDVVYV IDSCKQKVKLFTAHNNMTNYSTVWASKT NLEQRKGRAGRSTAGFCFHLCSRARFER LETHMTPEMFRTPLHEIALSIKLLRLGG IGQFLAKAIEPPPLDAVIEAEHTLRELD ALDANDELTPLGRILAKLPIEPFFGKMM IMGCIFYVGDAICTIAAATCFPEPFVNE GKQLGYIHRNFAGNRFSDHVALLSVFQA WDDARMGGEEAEIRFCEHKRLNMATLRM TWEAKVQLKEILINSGFPEDCLLTQVFT NTGPDNNLDVVISLLAFGVYPNVCYHKE KRKILTTEGRNALIHKSSVNCPFSSQDM NYPSPFFVFGEKIRTRAISAKGMTLVPP LQLLLFASKKVQSDGQIVLVDDWIKLQI SHEAAACITGLRAAMEALVVEVTKQPAI ISQLDPVNERMLNMIRQISEPSAAGINL MIGSTRYGDGPRPPKMARYDNGSGYRRG GSSYSGGGYGGGYSSGGYGGSAT |
| 13870 | 27771 | A | 14038 | 431 | 542 | PSGRICAGVGGGYRGVSRGGFRGNSGGD YRGPSGGYRGSGGFQRGGGRGAYGTGYL DIEEEVAAIKLGYVSSVCRQ EGITPGWARWLTPVIPGLWEEEAGGSPG |
| 13871 | 27772 | A | 14040 | 238 | 362 | REIDIGLAN RRCTFLSFRMLAPRVYSVVGKRAFSPSV |
| 13872 | 27773 | А | 14041 | 6290 | 3514 | CVRAHGKCDYSYS FRAAGSSSTNSGRICPLPSGALLYQSEG LLARPHGKGSFQVGRQQHQAVRVGSAHA SSAGYVCVSAFPFVFLRFCVGGGPGISR VYALFYGECNPTREWAVSSELSPSFQEQ NKMNKVEQKSQESVSFKDVTVGFTQEEW QHLDPSQRALYRDVMLENYSNLVSVGYC VHKPEVIFRLQQGEEPWKQEEEFPSQSF PEVWTADHLKERSQENQSKHLWEVVFIN NEMLTKEQGDVIGIPFNVDVSSFPSRKM |

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|--|---|----------|--|--|--|---|
| 13873 | 27774 | A | 14043 | 187 | 422 | LTIPKLHSAQEPAGPVSPPPPPSPTFQI GGRSRAEPRNQYCPQVAPVPALRGCLPL SPGEPPHDTSSPRHLTCGGIVF |
| 13874 | 27775 | A | 14044 | 340 | 442 | NKFLSWVRLLMPVIPTFWEAKVGGWLEA RSLRMQ |
| 13875 | 27776 | A | 14045 | 3 | 1240 | LVEGAAGQGVSDGARLRKCGTRSFPGSE EVLSSMARGSAFPAAALWLWSILLCLLA LRAEAGPPQEESLYLWIDAHQARVLIGF EEDILIVSEGKMAPFTHDFRKAQQRMPA ISVNIHSMNFTWQAAGQAEYFYEFLSLR SLDKGIMADPTVNVPLLGTVPHKASVVQ VGFPCLGKQDGVAAFEVDVIVMNSEGNT ILQTPQNAIFFKTCQQAECPGGCRNGGF CNERRICECPDGFHGPHCEKALCTPRCM NGGLCVTPGFCICPPGFYGVNCDKANCS TTCFNGGTCFYPGKCICPPGLEGEQCEI SKCPQPCRNGGKCIGKSKCKCSKGYQGD LCSKPVCEPGCGAHGTCHEPNKCQCQEG WHGRHCNKRYEASLIHALRPAGAQLRQH TPSLKKAEERRDPPESNYIW |
| 13876 | 27777 | A | 14046 | 18 | 274 | YSQEVLCEMNRSGVVSNIKRGWAWWQLT TTIPALWEAEVGGLLEPRSLRLASPQPP QHEDYSMSYCAQPRFSLCIRGFIFYSLW F |
| 13877 | 27778 | A | 14047 | 177 | 441 | GGSHYAWPNITFIFTKLIAQFFCFFEMQ SCSVARLECRGAISAHCNLHLPGSSNSP VMAQILKNQRKSNFDEDATLLGLSYTLL GEI |
| 13878 | 27779 | Α | 14048 | 136 | 319 | DVFLLLFHSNYFLFFETGSHSVSQAGVK WCDLSSLQPPPLGSSDPPTSASRVPALF FFLEF |
| 13879 | 27780 | Α | 14049 | 388 | 128 | ELKLPSYKGQSPQLSLRRYFADLIAIVS NRFTLCPSARHLAVYLLDLFMDRYDISI |

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|--|---|----------------|--|---|---|--|
| | | | | | | QQLHLVALSCLLLASKYESDLHDWKFLM FI |
| 13880 | 27781 | A | 14050 | 262 | 3 | VIYNYISVRPFPNIYHTFYTLSLFLYLS THTHTHTHTHTHTQRETGHVCVCIYTYM YMCMYAKWWYKFTFLISGKARIHTHLHP CI |
| 13881 | 27782 | A | 14051 | 149 | 423 | YPHLCAFLLLPSISSFRAGVFFFSYLSL TAYPLTWKPPEPPATPQPTPNPPPGHPA TRGPKSALLDHSYACASAPPLGTEGTAP SPSFALI |
| 13882 | 27783 | A | 14052 | 2 | 1440 | FVAVTAMAAPCLLRQGRAGALKTMLQEA QVFRGLASTVSLSAESGKSEKGQPQNSK KQSPPKNVVEPKERGKLLATQTAAELSK NLSSPSSYPPAVNKGRKVASPSPSGSVL FTDEGVPKFLSRKTLVEFPQKVLSPFRK QGSDSEARQVGRKVTSPSSSSSSSSS ESDDEADVSEVTPRVVSKGRGGLRKPEA SHSFENRAFRVTVSAKEKTLLQKPHVDI TDPEKPHQPKKKGSPAKPSEGRENARPK TTMPRSQVDEEFLKQSLKEKQLQKTFRL NEIDKESQKPFEVKGPLPVHTKSGLSAP PKGSPAPAVLAEEARAEGQLQASPPGAA EGHLEKPVPEPQRKAAPPLPRKETSGTQ GIEGHLKGGQAIVEDQIPPSNLETVPVE NNHGFHEKTAALKLEAEGEAMEDAAAPG NDRGGTQEPAPVPAEPFDNTTYKNLQHH DYSTYTFLDLNLELSKFRMPQPSSGRES PRH |
| 13883 | 27784 | A | 14053 | 177 | 1253 | EKKRTLPVRSVTGELQGKSLSDLAAGTM DSEKKRFTEEATKYFRERVSPVHLQILL TNNEAWKRFVTAAELPRDEADALYEALK KLRTYAAIEDEYVQQKDEQFREWFLKEF PQVKRKIQESIEKLRALANGIEEVHRGC TISNVVSSSTGAASGIMSLAGLVLAPFT AGTSLALTAAGVGLGAASAVTGITTSIV EHSYTSSAEAEASRLTATSIDRLKVFKE VMRDITPNLLSLLNNYYEATQTIGSEIR AIRQARARARLPVTTWRISAGSGGQAER TIAGTTRAVSRGARILSATTSGIFLALD VVNLVYESKHLHEGAKSASAEELRRQAQ ELEENLMELTQIYQRLNPCHTH |
| 13884 | 27785 | A | 14054 | 1585 | 2099 | ICVKTFPPLALQVRMAAAEHHHSSGLPY WPYLTAETLKNRMGHQPPPPTQQHSITD NSLSLKTPSERLLYPLPPSAPPSADDNL KTPPECLLTPLPPSALPSADDNLKTPAE CLLYPLPPSADDNLKTPPECLFTPLPPS APPSVDDNLKTPPECVCSLPFHPQRMII SRN |
| 13885 | 27786 | A | 14055 | 2 | 2865 | ALPDGGASVASDRAEGRPAKPSKTAARE KTEGAVAAVGGGPSSFRCCYGCCHEARL GRTSLPRGVIMLTEASLSIWGWGSLGIV LFLITFGPFVIFYLTFYILCFVGGGLVV TLLFGKTNSEKYLEQCEHSFLPPTSPGV PKCLEEMKREARTIKIDRRLTGANIIDE PLQQVIQFSLRDYVQYWYYTLSDDESFL LEIRQTLQNALIQFATRSKEIDWQPYFT TRIVDDFGTHLRVFRKAQQKITEKDDQV KGTAEDLVDTFFEVEVEMEKEVCRDLVC |

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|--|---|----------------|--|---|---|--|
| | | | | | | TSPKDEEGFLRDLCEVLLYLLLPPGDFQ NKIMRYFVREILARGILLPLINQLSDPD YINQYVIWMIRDSNCNYEAFMNIIKLSD NIGELEAVRDKAAEELQYLRSLDTAGDD INTIKNQINSLLFVKKVCDSRIQRLQSG KEINTVKLAANFGKLCTVPLDSILVDNV ALQFFMDYMQQTGGQAHLFFWMTVEGYR VTAQQQLEVLLSRQRDGKHQTNQTKGLL RAAAVGIYEQYLSEKASPRVTVDDYLVA KLADTLNHEDPTPEIFDDIQRKVYELML RDERFYPSFRQNALYVRMLAELDMLKDP SFRGSDDGDGESFNGSPTGSINLSLDDL SNVSSDDSVQLHAYISDTVYADYDPYAV AGVCNDHGKTYALYAITVHRRNLNSEEM WKTYRRYSDFHDFHMRITEQFESLSSIL KLPEKKTFNNMDRDFLEKRKKDLNAYLQ LLLAPEMMKASPALAHYVYDFLENKAYS KGKGDFARKMDTFVNPLRNSMRNVSNAV KSLPDSLAEGMTKMSDNMGKMSERLGQD IKQSFFKVPPLIPKTDSDPEHRRVSAQL DDNVDDNIPLRVMLLLMDEVFDLKERNQ WLRRNIKNLLQQLIRATYGDTINRKIVD HVDWMTSPEQVADSVKRFRDAFWPNGIL AEAVPCRDKSIRMRTRVAGKTKLLAIMP GE |
| 13886 | 27787 | A | 14057 14058 | 311 | 150 211 | FLCFKYRRGFATLHSGLKLLGSSDPPSS TSQIPGITGTSHCVQPTHLFFLALS RQHITCLDIFFIHMNYKYKYINTYLSIY |
| 13888 | 27789 | A | 14059 | 1 | 1642 | RDGRKMATATIALQVNGQQGGGSEPAAA AAVVAAGDKWKPPQGTDSIKMENGQSTA AKLGLPPLTPEQQEALQKAKKYAMEQSI KSVLVKQTIAHQQQQLTNLQMAAQRQRA LAIMCRVYVGSIYYELGEDTIRQAFAPF GPIKSIDMSWDSVTMKHKGFAFVEYEVP EAAQLALEQMNSVMLGGRNIKVGRPSNI GQAQPIIDQLAEEARAFNRIYVASVHQD LSDDDIKSVFEAFGKIKSCTLARDPTTG KHKGYGFIEYEKAQSSQDAVSSMNLFDL GGQYLRVGKAVTPPMPLLTPATPGGLPP AAAVAAAATAKITAQEAVAGAAVLGTL GTPGLVSPALTLAQPLGTLPQAVMAAQA PGVITGVTPARPPIPVTIPSVGVVNPIL ASPPTLGLLEPKKEKEEELFPESERPE MLSEQEHMSISGSSARHMVMQKLLRKQE STVMVLRNMVDPKDIDDDLEGEVTEECG KFGAVNRVIIYQEKQGEEEDAEIIVKIF VEFSIASETHKAIQALNGRWFAGRKVVA EVYDQERFDNSDLSA |
| 13889 | 27790 | A | 14060 | 1238 | 1474 | VLALQEGRPWRREPASIDACRLNFQRLR RGKFSNVLFPGLAQEALYSGGYHLKFAD ELMGGNLKKSTADASGSRGHQL |
| 13890 | 27791 | A | 14061 | 266 | 400 | GQWARPVIPALWEAKAGGSLEPSMLRPA GQHIKTPSVLITSKKT |
| 13891 | 27792 | A | 14062 | 2178 | 1881 | VLQAPSILLDAPRTDGGDMGRAMVARLG LWLLLLALLLPTQIYSSETTTGTSSNSS QSTSNTGLAPNPTNATTKAAGGALQSTA SLFVVSLSLLHLYS |

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|--|---|----------------|--|--|---|--|
| 13892 | 27793 | A | 14063 | 261 | 1 | NSVLTLALLFSLHVHLPPPPSGVTDTAG ALSTGGPPSPTSVTGRGPAHSHASQLPP APGEFAPLNESCRGWAGEAFLERFPDAW VDP |
| 13893 | 27794 | A | 14064 | 2384 | 1115 | QHFSRRGLCVVEQRSSVTSSWTSGAWSP PCPPSNASCNTLHTRDWASPDPGGQGSL GESPGPAPPGQLHTLDTDLHSLAQIGGK SPVAGVGNGGSLWPRESPGTANGHSPEH TPPGPGPPGPCPTKRRLLPAGEAPDVSS EEEGPAPRRRGSLGHPTAANSSDAKAT PFWSHLLPGPKEPVLDPTDCGPMGRRLK GARRLKLSPLRSLRKGPGLLSPPRASPV PTPAVSRTLLGNFEESLLRGRFAPSGHI EGFTAEIGASGSYCPQHVTLPVTVTFFD VSEQNAPAPFLGIVDLNPLGRKGYSVPK VGTVQVTLFNPNQTVVKMFLVTFDFSDM PAAHMTFLRHRLFLVPVGEEGNANPTHR LLCYLLHLRFRSSRSGRLSLHGDIRLLF SRRSLELDTGLPYELQAVTEAPHNPRYS PLP |
| 13894 | 27795 | A | 14065 | 232 | 416 | GWAVQLGIGTEGKEGTSSSERQREGRGD GNRKTGRRREGRRSTKTDAPSPYPAHRP RSKLI |
| 13895 | 27796 | A | 14067 | 238 | 45 | IQTCGSHSFCIPSIWEAKAGGLLEPRSL SPACPTQKDPISHLGSELPQSFRLLIRL VPLFLSAC |
| 13896 | 27797 | A | 14068 | 3 | 1705 | SCESKATPWRAVSASQELQHPQGGQRSP LPGDLTPARPNPAYPLTVECQRSCSRPV PAPLPPHTHPPGSSCFYSSFSFITKATA PGAQRRAVTQAERGRMGFLGTGTWILVL VLPIQAFPKPGGSQDKSLHNRELSAERP LNEQIAEABEDKIKKTYPPENKPGQSNY SFVDNLNLLKAITEKEKLIEKERQSIRSS PLDNKLNVEDVDSTKNRKLIDDYDSTKS GLDHKFQDDPDGLHQLDGTPLTAEDIVH KLAARIYEENDRAVFPKIVSKLLNLGLI TESQAHTLEDEVAEVLQKLISKEANNYE EDPNKPTSWTENQAGKIPEKVTPMAAIQ DGLAKGENDETVSNTLTLTNGLERRTKT YSEDNFEELQYFPNFYALLKSIDSEKEA KEKETLITIMKTLIDFVKMMVKYGTISP EEGVSYLENLDEMIALQTKNKLEKNATD NISKLFPAPSEKSHEETDSTKEEAAKME KEYGSLKDSTKDDNSNPGGKTDEPKGKT EAYLEAIRKNIEWLKKHDKKGNKEDYDL SKMRDFINKQADAYVEKGILDKEEAEAI KRIYSSL |
| 13897 | 27798 | A | 14069 | 1 | 140 | NTSVAIQTIEYYSAFKRKETLTHVPLWM NLKDTMLREISQSQKDTV |
| 13898 | 27799 | A | 14071 | 212 | 104 | HTNHQCQTVLPAGQALATPQGLAPSPVF PQSCLRMV |
| 13899 | 27800 | A | 14072 | 358 | 112 | FPLTVMLNVFLWWQNLKHFCWFIQEQLM FFFFFFLRTGSHYVVQAGLELLGSTNLP ASVSRVAGTTGIHNCTQFNPLHTLHL |
| 13900 | 27801 | A | 14073 | 3 | 151 | YMGFHHVGYAGLELLTSSDLPPWPPKCW DYRHEPSCLAMFFYFALIAPE |
| 13901 | 27802 | A | 14074 | 8 | 1493 | VTIHHLFVGQAVRADTLKKKSPSCLLCI VFIPVPRIDLTNIDQVAVIFKHHFPVGR |

| SEQ ID | SEQ ID | M | SEQ ID | Predicted | Predict- | Amino acid sequence (A=Alanine |
|------------|----------|----------|----------|--------------|------------|---------------------------------------|
| NO: of | NO: of | eth | NO: in | beginning | ed end | C=Cysteine, D=Aspartic Acid, |
| nucleotide | peptide | od | USSN | nucleotide | nucle- | E=Glutamic Acid, F=Phenylalanine, |
| sequence | sequence | | 09/515,1 | location | otide | G=Glycine, H=Histidine, I=Isoleucine, |
| | | | 26 | correspond | location | K=Lysine, L=Leucine, M=Methionine, |
| | | | | ing to first | correspon | N=Asparagine, P=Proline, |
| | | | | amino acid | ding to | Q=Glutamine, R=Arginine, S=Serine, |
| | i e | | | residue of | last amino | T=Threonine, V=Valine, |
| | | | | peptide | acid | W=Tryptophan, Y=Tyrosine, |
| | | | | sequence | residue of | X=Unknown, *=Stop codon, /=possible |
| | | | | | peptide | nucleotide deletion, \=possible |
| | | | | | sequence | nucleotide insertion |
| | | | | | | GDAVLKTWAPAQCLCSRMGPAWLWLLGT |
| | | l | | | | GILASVHCQPLLAHGDKSLQGPQPPRHQ |
| | | İ | | | | LSEPAPAYHRITPTITNFALRLYKELAA |
| | | | | | | DAPGNIFFSPVSISTTLALLSLGAQANT |
| | | | | | | SALILEGLGFNLTETPEADIHQGFRSLL |
| | | | | | | HTLALPSPKLELKVGNSLFLDKRLKPRQ |
| | | | Ì | 1 | | HYLDSIKELYGAFAFSANFTDSVTTGRQ |
| | | | | | | INDYLRRQTYGQVVDCLPEFSQDTFMVL |
| | | | | | | ANYIFFKAKWKHPFSRYQTQKQESFFVD |
| | | | | | | ERTSLQVPMMHQKEMHRFLYDQDLACTV |
| | | | - | | | LQIEYRGNALALLVLPDPGKMKQVEAAL |
| | | | | 1 | | QPQTLRKWGQLLLPSLLDLHLPRFSISG |
| | | | | | | TYNLEDILPQIGLTNILNLEADFSGVTG |
| | | | | | | QLNKTISKVSHKAMVDMSEKGTEAGAAS |
| | | | | | | GLLSQPPSLNTMSDPHAHFNRPFLLLLW |
| | | <u> </u> | | | | EVTTQSLLFLGKVVNPVAG |

WHAT IS CLAIMED IS:

1. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of SEQ ID NO: 1-13901, a mature protein coding portion of SEQ ID NO: 1-13901, an active domain of SEQ ID NO: 1-13901, and complementary sequences thereof.

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- 2. An isolated polynucleotide encoding a polypeptide with biological activity, wherein said polynucleotide hybridizes to the polynucleotide of claim 1 under stringent hybridization conditions.
- 10 3. An isolated polynucleotide encoding a polypeptide with biological activity, wherein said polynucleotide has greater than about 90% sequence identity with the polynucleotide of claim 1.
 - 4. The polynucleotide of claim 1 wherein said polynucleotide is DNA.
- 15 5. An isolated polynucleotide of claim 1 wherein said polynucleotide comprises the complementary sequences.
 - 6. A vector comprising the polynucleotide of claim 1.
- 20 7. An expression vector comprising the polynucleotide of claim 1.
 - 8. A host cell genetically engineered to comprise the polynucleotide of claim 1.
- 9. A host cell genetically engineered to comprise the polynucleotide of claim 1 operatively associated with a regulatory sequence that modulates expression of the polynucleotide in the host cell.
 - 10. An isolated polypeptide, wherein the polypeptide is selected from the group consisting of:
 - (a) a polypeptide encoded by any one of the polynucleotides of claim 1; and
 - (b) a polypeptide encoded by a polynucleotide hybridizing under stringent conditions with any one of SEQ ID NOS: 1-13901.
 - 11. A composition comprising the polypeptide of claim 10 and a carrier.
- 35 12. An antibody directed against the polypeptide of claim 10.

13. A method for detecting the polynucleotide of claim 1 in a sample, comprising:

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- a) contacting the sample with a compound that binds to and forms a complex with the polynucleotide of claim 1 for a period sufficient to form the complex; and
- b) detecting the complex, so that if a complex is detected, the polynucleotide of claim 1 is detected.
 - 14. A method for detecting the polynucleotide of claim 1 in a sample, comprising:
- a) contacting the sample under stringent hybridization conditions with nucleic acid primers that anneal to the polynucleotide of claim 1 under such conditions;
 - b) amplifying a product comprising at least a portion of the polynucleotide of claim 1; and
- c) detecting said product and thereby the polynucleotide of claim 1 in the sample.
 - 15. The method of claim 14, wherein the polynucleotide is an RNA molecule and the method further comprises reverse transcribing an annealed RNA molecule into a cDNA polynucleotide.
- 20 16. A method for detecting the polypeptide of claim 10 in a sample, comprising:
 - a) contacting the sample with a compound that binds to and forms a complex with the polypeptide under conditions and for a period sufficient to form the complex; and
 - b) detecting formation of the complex, so that if a complex formation is detected, the polypeptide of claim 10 is detected.
 - 17. A method for identifying a compound that binds to the polypeptide of claim 10, comprising:
 - a) contacting the compound with the polypeptide of claim 10 under conditions sufficient to form a polypeptide/compound complex; and
- b) detecting the complex, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 10 is identified.
 - 18. A method for identifying a compound that binds to the polypeptide of claim 10, comprising:

a) contacting the compound with the polypeptide of claim 10, in a cell, under conditions sufficient to form a polypeptide/compound complex, wherein the complex drives expression of a reporter gene sequence in the cell; and

- b) detecting the complex by detecting reporter gene sequence expression, so
 5 that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 10 is identified.
 - 19. A method of producing the polypeptide of claim 10, comprising,
- a) culturing a host cell comprising a polynucleotide sequence selected from the group consisting of a polynucleotide sequence of SEQ ID NO: 1-13901, a mature protein coding portion of SEQ ID NO: 1-13901, an active domain of SEQ ID NO: 1-13901, complementary sequences thereof and a polynucleotide sequence hybridizing under stringent conditions to SEQ ID NO: 1-13901, under conditions sufficient to express the polypeptide in said cell; and
 - b) isolating the polypeptide from the cell culture or cells of step (a).
 - 20. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NOS: 13902-27802, the mature protein portion thereof, or the active domain thereof.
 - 21. The polypeptide of claim 20 wherein the polypeptide is provided on a polypeptide array.
 - A collection of polynucleotides, wherein the collection comprises the sequence information of at least one of SEQ ID NOS: 1-13901.
 - 23. The collection of claim 22, wherein the collection is provided on a nucleic acid array.
- The collection of claim 23, wherein the array detects full-matches to any one of the polynucleotides in the collection.
 - 25. The collection of claim 23, wherein the array detects mismatches to any one of the polynucleotides in the collection.

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26. The collection of claim 22, wherein the collection is provided in a computer-readable format.

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- 27. A method of treatment comprising administering to a mammalian subject in need thereof a therapeutic amount of a composition comprising a polypeptide of claim 10 or 20 and a pharmaceutically acceptable carrier.
- 28. A method of treatment comprising administering to a mammalian subject in need thereof a therapeutic amount of a composition comprising an antibody that specifically binds to a polypeptide of claim 10 or 20 and a pharmaceutically acceptable carrier.